Best Practices in Maternal and Newborn Care:
A Learning Resource Package for Essential and Basic Emergency Obstetric and Newborn Care

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ACKNOWLEDGMENTS

This *Best Practices in Maternal and Newborn Care: Learning Resource Package for Essential and Basic Emergency and Newborn Care* is the result of a significant collaboration among many health care professionals, and has undergone extensive review, field-testing and revision.

Barbara Deller of Jhpiego led the efforts to complete the package. Diana Beck and Annie Clark of the American College of Nurse-Midwives (ACNM), Frances Ganges and a team of other trainers worked tirelessly in contributing to the development and field-testing of these materials. Patricia Gomez of Jhpiego/ACCESS Program provided technical assistance throughout the process. Several of the handouts in the Breastfeeding Module, as well as the Appendix on Making Cloth Models, were developed by Annie Clark.

The original draft of the module on Nutrition was developed by Eleonore Seumo/Academy for Educational Development.

We would like to thank the trainers and participants involved in the field-testing in Ethiopia, Ghana, Malawi and Tanzania. Thanks also to Dana Lewison of Jhpiego for editorial assistance.

We are hopeful that these materials will be useful for those working together to improve maternal and newborn care around the world.
INTRODUCTION

RATIONALE FOR THIS UPDATE

Maternal and newborn morbidity and mortality in Africa remain at an unacceptably tragic level. A woman in Africa has a one in 16 risk of dying due to complications of pregnancy, childbirth or the postpartum. Globally, it is estimated that 34 out of every 1,000 newborns will die before reaching 1 month of age.

High-quality maternal and newborn care requires that each woman and newborn receive evidence-based care during normal (uncomplicated) pregnancy, labor and birth, and the postpartum period. Both care of the “normal” cases and early detection and management of complications, with an effective referral system, are essential to reducing maternal and newborn mortality. The essential services that a midwife (see Appendix A: International Confederation of Midwives Core Competencies for Midwifery Education and Practice), or other skilled birth attendant (SBA) should be capable of providing to the mother or newborn with problems include the Basic Emergency Obstetric and Newborn Care (BEmONC), as detailed in the box below.

Services defined by Basic Emergency Obstetric and Newborn Care (BEmONC):
- Parenteral antibiotics
- Parenteral uterotonics
- Parenteral anticonvulsants
- Manual removal of the placenta
- Removal of retained products of conception
- Assisted vaginal delivery
- Resuscitation of the newborn

The midwife is often the care provider who is most accessible to pregnant and birthing women and their newborns. And the midwife is often the leader to whom the health care community looks for expertise in care of the woman and her newborn. As an SBA, her/his presence at a birth, or during pregnancy or the postpartum period, is associated with a reduction in maternal and newborn mortality. Evidence shows that investment in midwives and their training has been crucial in the improvement of the health and well-being of mothers and their babies in countries such as Malaysia, Sri Lanka and Tunisia.1 Midwives transcend the levels of care within the health system. Therefore, investment in the training and support of midwives is urgently needed. An estimated 334,000 more midwives are required to decrease maternal and newborn deaths, according to the World Health Organization (WHO) 2005 World Health Report.2

To have an impact on maternal and newborn mortality and morbidity, however, the SBA working in Africa must be skilled in essential life-saving competencies (see Appendix B: Essential Competencies for the Skilled Birth Attendant in the Africa Region). You will note that the ICM Midwifery Core Competencies include these competencies of the SBA, equipping her to be a leader in the reduction of maternal mortality and morbidity in Africa.

**Definition of a Midwife**

“A midwife is a person, who, having been regularly admitted to a midwifery educational programme, duly recognised in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.

She must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her own responsibility and to care for the newborn and the infant. This care includes preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in health counselling and education, not only for the women, but also within the family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of gynaecology, family planning and child care. She may practise in hospitals, clinics, health units, domiciliary conditions or any other service.”

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**PURPOSE, CONTENT AND USE OF THIS LEARNING RESOURCE PACKAGE**

**Purpose of the Learning Resource Package**

For years, much of basic and emergency obstetric and newborn care was provided according to “tradition” and “routine” practice rather than according to evidence. Today, we know that to be effective, care should be evidence-based. And yet the “evidence” and current “best practices” in maternal and newborn care have failed to catch up with our teaching of students.

*Best Practices in Maternal and Newborn Care: A Learning Resource Package for Essential and Basic Emergency Obstetric and Newborn Care* helps provide the updates on best practices needed to teach faculty and students the most current evidence-based care. Use of this package assumes that basic skills, such as normal birth or normal antenatal care, are already being taught. This package of materials will supplement the basic teaching resources already being used in order to update faculty and ensure that current evidence-based practices are included in midwifery education programs.

**Organization of the Learning Materials**

This package is organized into modules because some faculty may need updates on specific topics, but not on all of them. Teachers and trainers do not have to use every module/session, but may target the course(s) according to the needs of their audience/students, as well as to available time and resources. Based on the number and selection of topics, a “course” might be a half-day seminar, a 3-day course, a 3-week course, or any other length depending on time available. Likewise, the faculty may select a module to use in teaching their own students.

While a broad selection of learning tools and learning activities is included in each module, individual preference, time available and/or learner/participant needs will influence the selection of which materials are used in a specific course. For instance, the time available for one session on Best Practices in Management of Headache, Convulsions, Loss of Consciousness or High Blood Pressure is usually limited, so faculty may choose to use some learning tools but not others. However, all learning materials are designed and written to be usable by students in any language. Many of the learning activities provide useful skills in large group teaching as well as small group discussion. The materials also aim to help faculty members assess their students’ knowledge and abilities.”

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Blood Pressure might allow the use of the three case studies in the module, while in another situation, time may be available for only one case study or even an abbreviated version of one case study. The experienced facilitator/teacher will be able to modify materials as dictated by time and circumstances. Also, one setting may not have facility for use of slide presentations. However, these presentations can be made into overhead slides, flip charts or handouts.

The Introduction section of the package provides an in-depth overview of current best practices in teaching pre-service midwifery. It also includes a special section on Strengthening a Curriculum.

The Introduction section is followed by a section called Administrative Tools, which includes goals and objectives of the workshop, a facilitator’s checklist on effective teaching, list of equipment necessary for the workshop, and mid-training and final evaluation forms for the participants. It also includes two model workshop schedules for a 2- and 3-week update for midwifery faculty. Depending on time available and the needs of the learner/participant, these outlines will be modified in length and in topics to be covered.

The 3-week course covers a more comprehensive package of topics related to best practices in comprehensive essential maternal and newborn care. The 2-week course does not include the sessions on Evidence-Based Medicine and Midwifery Education. It also does not include time for developing Postabortion Care skills in a simulated situation. In addition, time for practice in the simulated setting for the development of all skills is greatly reduced. The 2-week course includes only 2 full days and 2 half-days in clinical practice, in addition to evening call for labor and birth.

The Administrative Tools section is followed by a series of modules that provide the updated technical information on best practices in maternal and newborn care. The first three modules provide an introduction to the Approach to Training that will be used in this package and course, an overview of Maternal and Newborn Mortality Reduction, and Evidence-Based Medicine. The next three modules cover Women-Friendly Care, Clinical Decision-Making and Infection Prevention, which apply to all of the technical content areas of the package. Modules 7–13 address basic care, i.e., the care of the woman and newborn who do not have complications or problems. Modules 14–21 deal with complications and the emergency care that needs to be provided, and cover all of the Basic Emergency Obstetric and Newborn Care (BEmONC) services mentioned at the beginning of the Introduction, providing an update on current practices for each element of the care. Module 22 covers Kangaroo Mother Care and Module 23 focuses on Opportunities and Challenges in Midwifery Education. There are also two optional modules included—one on Nutritional Care of the Pregnant and Lactating Woman and the other on Performance and Quality Improvement, since the goal is not only that students “learn” but that they also perform competently to provide high-quality care.

This package also contains several “supplementary modules.” These are modules whose content is also included in another session, but which may be needed separately. For instance, use of the partograph is covered within the full-length module Best Practices in Labor and Childbirth. But if a group of learners/participants needs to know only how to use the partograph (i.e., is already skilled in care for labor and childbirth), the facilitator/teacher can use the supplementary module Best Practices in Use of the Partograph, instead of the full-length module. Likewise, breastfeeding support is covered within the module Best Practices in Postpartum Care of the...
Mother. However, if the need is only for breastfeeding content, the supplementary module Best Practices in Breastfeeding Support can be used instead.

Each of the clinical modules contains a Session Plan, accompanying slide presentation and a variety of role plays, case studies and other exercises. For sessions that deal with a psychomotor skill, a Skills Practice Session is included to guide the skills learning session. Relevant learning guides and checklists are also included. Some of the learning guides and checklists incorporate a number of skills. For instance, the Assisting Normal Birth learning guide and checklist include Active Management of the Third Stage of Labor as well as Normal Newborn Care. Clinical Simulations, a type of emergency drill, are included for some of the emergency conditions. These exercises help develop clinical decision-making and problem-solving skills under emergency clinical conditions.

Although presentations are in the format of PowerPoint slides, when the necessary technology is not available, the slides can be made into overhead transparencies, the content can be copied onto flip chart paper, or slides can be copied for participants using the “handout” format with three or six slides per page. Interspersed throughout the PowerPoint presentation are slides with questions. These are meant to prompt the facilitator/teacher to ask a question of the group and elicit a response before moving on to the next slide, which will provide an answer. PowerPoints or overheads are never intended to be read verbatim; rather, they are meant to guide a participatory presentation. The facilitator/teacher may ask other questions or discuss issues that arise while content is being presented. The PowerPoint provides the content that needs to be communicated, but the most effective teaching will occur when the learners/participants are participating actively in the learning process.

The facilitator/teacher who is using any of the modules will want to adapt them to the audience, learning situation and resources/time available. Some settings will not have PowerPoint capability for the slide presentations and so overhead projection may be used. Electricity and/or equipment may not be available in other settings and so handouts of the presentations may be used. Likewise, time constraints may necessitate the abbreviation of some sessions. Case studies may need to be reduced to a series of shorter questions and answers rather than presenting a detailed case and requesting assessment, diagnosis, management and evaluation of the patient’s care.

For the assessment of knowledge, true-false and multiple choice questions are included at the end of each module. The instructor will need to combine questions from each module that is being used in order to generate the pre-course and midcourse/endcourse questionnaires. The instructor may choose to use all true-false questions for the pre-test and multiple choice questions for the post-test. Alternatively, both types of questions may be selected for both tests.

Above all, this package should be a tool that facilitates teaching and learning. Flexibility will be essential to maximum effectiveness.
FOUNDATION OF A SUCCESSFUL MIDWIFERY EDUCATION PROGRAM

Before implementing an educational program, consideration must be given to the learning process, the learning environment, the preparation of teachers and classrooms, the selection and preparation of clinical sites, the availability of learning resources, the preparation of a simulated practice environment and scheduling considerations, as outlined below.

The Learning Process

Midwives must have the knowledge and skills essential to the provision of safe and effective pregnancy, childbirth and newborn care. It is necessary, therefore, that they participate in a learning process that facilitates the development of:

- Problem solving, critical thinking and decision-making skills;
- Appropriate interpersonal communication skills; and
- Competency in a range of essential clinical skills for basic maternal and newborn care and for the management of common complications in pregnancy and childbirth.

In addition, the learning process must be supported by:

- Training programs that provide appropriate managerial and technical support,
- Skilled classroom and clinical teachers, and
- Teaching materials that reflect the most recent evidence-based information.

Establishing a positive learning climate depends on understanding how adults learn. The facilitator/teacher must have a clear understanding of what the learners/participants need and expect. Adults who attend courses to acquire new knowledge, attitudes and skills share the characteristics described below:

- Require learning to be relevant. The facilitator/teacher should offer learners learning experiences that relate directly to their future job responsibilities. At the beginning of the course, the objectives should be stated clearly and linked clearly to their future job performance. The facilitator/teacher should take time to explain how each learning experience relates to the successful accomplishment of the course objectives.
- Are highly motivated if they believe learning is relevant and will enable them to become effective health care providers. People bring high levels of motivation and interest to learning. Motivation can be increased and channeled by the clinical facilitator/teacher who provides clear learning goals and objectives.
- Need participation and active involvement in the learning process. Few individuals prefer just to sit back and listen. The effective facilitator/teacher will design learning experiences that actively involve the learners in the training process. Examples of how the facilitator/teacher may involve learners include:
  - Allowing learners to provide input regarding schedules, activities and other events
  - Questioning and feedback
  - Brainstorming and discussions
  - Hands-on work
- Group and individual projects
- Classroom activities

- Desire a variety of learning experiences. The facilitator/teacher should use a variety of learning methods including:
  - Audiovisual aids
  - Illustrated lectures
  - Demonstrations
  - Brainstorming
  - Small group activities
  - Group discussions
  - Role plays, case studies and clinical simulations
  - Practice in simulated situations
  - Supervised clinical practice

- Desire **positive feedback.** Learners need to know **how they are doing**, particularly in light of the objectives and expectations of the course. Is their progress in learning clinical skills meeting the facilitator’s/teacher’s expectations? Is their level of clinical performance meeting the standards established for the procedure? **Positive feedback provides this information.** Learning experiences should be designed to move from the known to the unknown, or from simple activities to more complex ones. This progression provides positive experiences and feedback for the learner. To maintain positive feedback, the facilitator/teacher can:
  - Give verbal praise either in front of other learners or in private,
  - Use positive responses during questioning,
  - Recognize appropriate skills while coaching in a clinical setting, and
  - Let the learners know how they are progressing toward achieving learning objectives.

- Have **personal concerns.** The facilitator/teacher must recognize that many learners fear failure and embarrassment in front of their colleagues. Learners often have concerns about their ability to:
  - Fit in with the other learners,
  - Get along with the facilitator/teacher,
  - Understand the content of the training, and
  - Perform the skills being taught.

- Need an **atmosphere of safety.** The facilitator/teacher should open the course with an introductory activity that will help learners feel at ease. It should communicate an atmosphere of safety so that learners do not judge one another or themselves.

- Need to be **treated as individuals,** each of whom has a unique background, experience, and learning needs. To help ensure that learners feel like individuals, the facilitator/teacher should:
• Use learners’ names as often as possible
• Involve all learners as often as possible
• Treat learners with respect
• Allow learners to share information with others during classroom and clinical instruction

● Must maintain their self-esteem. Learners need to maintain high self-esteem to deal with the demands of a course. It is essential that the facilitator/teacher show respect for the learners, no matter what practices and beliefs they hold to be correct, and continually support and challenge them. This requires the facilitator/teacher to:
  ● Reinforce those practices and beliefs embodied in the course content
  ● Provide corrective feedback when needed, in a way that the learners can accept and use it with confidence and satisfaction
  ● Provide teaching/ training that adds to, rather than subtracts from, their sense of competence and self-esteem

● Have high expectations for themselves and the other learners. People tend to set high expectations both for the facilitators/teachers and for themselves. Strive for excellence always.

● Have personal needs that must be taken into consideration. All learners have personal needs. Taking timely breaks and providing the best possible ventilation, proper lighting, and an environment as free from distraction as possible can help to reduce tension and contribute to a positive learning atmosphere.

The Learning Environment

The learning environment should:

● Incorporate an educational philosophy that encourages the development of problem-solving and critical thinking and emphasizes behaviors that respect and respond to a patient’s/client’s perceived needs;

● Include a curriculum that reflects the essential competencies of an SBA;

● Include relevant educational materials that reflect an adult learning approach;

● Involve teachers who are adequately prepared to use competency-based learning methods and clinically competent to teach and serve as role models for learners;

● Involve competent clinical preceptors who are able to use competency-based assessment tools;

● Facilitate comprehensive, supervised clinical learning experiences that will enable the development of essential skills for basic maternal and newborn care and for the management of common complications in pregnancy and childbirth; and

● Include evaluation methods that assess knowledge, skills and attitudes.
**Preparation of Facilitators/Teachers**

Faculty development/training may be needed to help ensure that the classroom and clinical teachers are:
- Current in their knowledge of care during pregnancy and childbirth,
- Competent in the skills they will teach,
- Able to use competency-based learning methods and methods of assessment,
- Capable of serving as role models for learners and colleagues, and
- Interested in being teachers.

**Preparation of Classroom Facilities**

Classrooms should be available for interactive presentations (e.g., illustrated lectures) and group activities. Seating in classrooms should be comfortable and lighting and ventilation adequate. At a minimum, a writing surface should be provided for each learner/participant, and a chalkboard and/or flip chart, chalk and/or felt pens, and an overhead projector should be available in each classroom. If possible, classrooms should be within easy access of the clinical sites used for the program.

**Selection of Clinical Sites**

Clinical sites should be assessed and selected based on the following criteria:
- **Patient/client mix and volume.** Are there sufficient patients/clients in sufficient numbers for learners/participants to gain the clinical experience needed?
- **Equipment, supplies and drugs.** Does the facility have the necessary equipment, supplies and drugs, in sufficient quantities, to support the learning process?
- **Staff.** Are staff members at the site willing to accept learners and participate in the learning process? Do they use up-to-date, evidence-based practices for pregnancy, childbirth and postpartum/newborn care? Do their practices reflect the knowledge and skills described in this learning resource package (if not, there may be a need to update their knowledge and skills first)? Do they use correct infection prevention practices?
- **Transportation.** Is the site within easy access for learners/participants and facilitators/teachers? Do special transportation arrangements need to be made?
- **Other training activities.** Are there other training activities at the site that would make it difficult for learners/participants to gain the clinical experience they need?

**Availability of Learning Resources**

Learners/participants need to have access to reference materials and other learning resources for the duration of the program. Ideally, these materials and resources should be made available at a single location, and include reference manuals and other relevant printed materials; anatomic models such as a childbirth simulator, pelvic and fetal models, and a newborn resuscitation model; and supplies and equipment for practicing with the models such as gloves, drapes, etc.
Preparation of a Simulated Practice Environment

A simulated practice environment provides students with a safe environment where they can work together in small groups, watch technical videos, and practice skills with anatomic models. If a room dedicated to simulated practice is not available, a classroom or a room at a clinical practice site should be set up for this purpose.

The simulated practice environment must have the necessary supplies and equipment for the desired practice sessions. The room should be set up before learners/participants arrive and there should be enough space and enough light for them to practice with models or participate in other planned activities. The following resources should be available:

- Anatomic models;
- Medical supplies such as a newborn resuscitation bag and mask, cloth sheets or drapes, cotton/gauze swabs, syringes and needles, and infection prevention supplies;
- Learning materials such as the reference manuals, learning guides and checklists;
- Chairs, tables, a place for handwashing or simulated handwashing, a video cassette player and monitor, a flip chart stand, paper and markers; and
- Medical supplies such as a newborn resuscitation bag and mask, cloth sheets or drapes, cotton/gauze swabs, syringes and needles, and infection prevention supplies.

Scheduling Considerations

The number of learners/participants in the program will need to be considered when scheduling classroom and clinical activities. For example, while it is possible to hold lectures for large groups of learners, clinical teaching in simulated situations and at clinical sites should be undertaken with small groups of learners. For these learning experiences, a ratio of one facilitator/teacher to four to six learners is recommended.

A schedule of activities should be developed for a particular period of time (e.g., blocks of time spent in the classroom and at clinical sites) and indicate clearly:

- Where and when classroom sessions will be held and the teacher(s) responsible for the session;
- Where and when simulated clinical skills learning will take place, the responsible teachers and the small-group composition of learners;
- Where and when clinical practice will take place, the teachers responsible, the small-group composition of learners, and the transportation arrangements to and from the clinical site; and
- Where and when knowledge assessments will take place and the teacher(s) responsible.

Student-Teacher/Preceptor Ratio

The ratio of students to teachers has a direct impact on the quality of learning and the ability of students to gain the knowledge and skills required. Ratios that have led to success in other programs are:
Classroom: 1 teacher for a maximum of 30 students

Small group learning or discussion: One teacher for 15–18 students (a single teacher may oversee the work of two or three small groups, which together have a maximum of 15–18 students)

Simulated practice: One teacher to 8–12 students who are working on models or in a simulated setting

Clinical practice: One teacher or clinical preceptor for four to six students who are providing patient care

ESSENTIAL TEACHING SKILLS

Using Effective Presentation Skills

It is also important to use effective presentation skills. Establishing and maintaining a positive learning climate during training depend on how the clinical facilitator/teacher delivers information because the facilitator/teacher sets the tone for the course. In any course, how something is said may be just as important as what is said. Some common techniques for effective presentations are listed below:

- **Follow a plan**, which include the session objectives, introduction, body, activity, audiovisual reminders and summary.

- **Communicate in a way that is easy to understand.** Many learners/participants will be unfamiliar with the terms, jargon and acronyms of a new subject. The facilitator/teacher should use familiar words and expressions, explain new language and attempt to relate to the learners during the presentation.

- **Maintain eye contact with learners/participants.** Use eye contact to “read” faces. This is an excellent technique for establishing rapport and getting feedback on how well learners understand the content.

- **Project your voice** so that those in the back of the room can hear clearly. Vary volume, voice pitch, tone and inflection to maintain learners’/participants’ attention. Avoid using a monotone voice, which is guaranteed to put learners to sleep!

- **Avoid the use of slang or repetitive words, phrases or gestures** that may become distracting with extended use.

- **Display enthusiasm about the topic and its importance.** Smile, move with energy and interact with learners/participants. The facilitator’s/teacher’s enthusiasm and excitement are contagious and directly affect the morale of the learners.

- **Move around the room.** Moving around the room helps ensure that the facilitator/teacher is close to each learner/participant at some time during the session. Learners are encouraged to interact when the clinical facilitator/teacher moves toward them and maintains eye contact.

- **Use appropriate audiovisual aids** during the presentation to reinforce key content or help simplify complex concepts.
● Be sure to ask both simple and more challenging questions.

● Provide positive feedback to learners/participants during the presentation.

● Use learners’/participants’ names as often as possible. This will foster a positive learning climate and help keep the learners focused on the presenter.

● Display a positive use of humor related to the topic (e.g., humorous stories, cartoons on transparency or flipchart, cartoons for which learners are asked to create captions).

● Provide smooth transitions between topics. Within a given presentation, a number of separate yet related topics may be discussed. When shifts between topics are abrupt, learners may become confused and lose sight of how the different topics fit together in the bigger picture. Before moving on to the next topic, the facilitator/teacher can ensure that the transition from one topic to the next is smooth by:
  ● Providing a brief summary,
  ● Asking a series of questions,
  ● Relating content to practice, or
  ● Using an application exercise (case study, role play, etc.).

● Be an effective role model. The facilitator/teacher should be a positive role model in appearance (appropriate dress) and attitude (enthusiasm for the course), and by beginning and ending the session at the scheduled times.

**CONDUCTING LEARNING ACTIVITIES**

Every presentation (teaching session) should begin with an introduction to capture learner/participant interest and prepare the learner for learning. After the introduction, the facilitator/teacher may deliver content using an illustrated lecture, demonstration, small group activity or other learning activity. Throughout the presentation, questioning techniques can be used to encourage interaction and maintain learner interest. Finally, the facilitator/teacher should conclude the presentation with a summary of the key points or steps.

**Delivering Interactive Presentations**

*Introducing Presentations*

The first few minutes of any presentation are critical. Learners/participants may be thinking about other matters, wondering what the session will be like, or have little interest in the topic. The introduction should:

● Capture the interest of the entire group and prepare learners for the information to follow,

● Make learners aware of the facilitator’s/teacher’s expectations, and

● Help foster a positive learning climate.

The facilitator/teacher can select from a number of techniques to provide variety and ensure that learners/participants are not bored. Many introductory techniques are available, including:
• **Reviewing the session objectives.** Introducing the topic by a simple restatement of the objectives keeps the learner aware of what is expected of her/him.

• **Asking a series of questions about the topic.** The effective facilitator/teacher will recognize when learners have prior knowledge concerning the course content and encourage their contributions. The facilitator/teacher can ask a few key questions, allow learners to respond, discuss answers and comments, and then move into the body of the presentation.

• **Relating the topic to previously covered content.** When a number of sessions are required to cover one subject, relate each session to previously covered content. This ensures that learners understand the continuity of the sessions and how each relates to the overall topic. Where possible, link topics so that the concluding review or summary of one presentation can introduce the next topic.

• **Sharing a personal experience.** There are times when the clinical facilitator/teacher can share a personal experience to create interest, emphasize a point or make a topic more job-related. Learners enjoy hearing these stories as long as they relate to the topic and are used only when appropriate.

• **Relating the topic to real-life experiences.** This technique not only catches the learners’ attention, but also facilitates learning because people learn best by “anchoring” new information to known material. The experience may be from the everyday world or relate to a specific process or piece of equipment.

• **Using a case study, clinical simulation, or other problem-solving activity.** Problem-solving activities focus attention on a specific situation related to the training topic. Working in small groups generally increases interest in the topic.

• **Using a videotape or other audiovisual aid.** Use of appropriate audiovisuals can be stimulating and generate interest in a topic.
  - Giving a classroom demonstration. Most clinical training courses involve equipment, instruments, and techniques that lend themselves to demonstrations, which generally increase learner interest.
  - Using a game, role play, or simulation. Games, role plays, and simulations generate tremendous interest through direct learner involvement and therefore are useful for introducing topics.
  - Relating the topic to future work experiences. Learners’ interest in a topic will increase when they see a relationship between training and their work. The clinical facilitator/teacher can capitalize on this by relating objectives, content, and activities of the course to real work situations.

**Using Questioning Techniques**

Questions can be used at any time to:

• Introduce a topic,
• Increase the effectiveness of the illustrated lecture,
• Promote brainstorming, and
• Supplement the discussion process.
Use a variety of questioning techniques, such as those following, to maintain interest and avoid a repetitive style:

- **Ask a question of the entire group.** The advantage of this technique is that those who wish to volunteer may do so; however, some learners may dominate while others may not participate.

- **Target the question to a specific learner by using her/his name prior to asking the question.** The learner is aware that a question is coming, can concentrate on the question and can respond accordingly. The disadvantage is that once a specific learner is targeted, other learners may not concentrate on the question.

- **State the question, pause and then direct the question to a specific learner.** All learners must listen to the question in the event that they are asked to respond. The primary disadvantage is that the learner receiving the question may be caught off-guard and have to ask the facilitator/teacher to repeat the question.

The key in asking questions is to avoid a pattern. The skilled facilitator/teacher uses all three of the above techniques to provide variety and maintain the learners’/participants’ attention. Other techniques follow:

- **Use learners’ names** during questioning. This is a powerful motivator and also helps ensure that all learners are involved.

- **Repeat a learner’s correct response.** This provides positive reinforcement to the learner and ensures that the rest of the group heard the response.

- **Provide positive reinforcement for correct responses** to keep the learner involved in the topic. Positive reinforcement may take the form of praise, displaying a learner’s work, using a learner as an assistant or using positive facial expressions, nods, or other nonverbal actions.

- **When a learner’s response is partially correct,** the facilitator/teacher should reward the correct portion and then improve the incorrect portion or redirect a related question to that learner or to another learner.

- **When a learner’s response is incorrect,** the facilitator/teacher should make a noncritical response and restate the question to lead the learner to the correct response.

- **When a learner makes no attempt to respond,** the facilitator/teacher may wish to follow the above procedure or redirect the question to another learner. Come back to the first learner after receiving the desired response and involve her/him in the discussion.

- **When learners ask questions,** the clinical facilitator/teacher must determine an appropriate response by drawing upon personal experience and weighing the individual’s needs against those of the group. If the question addresses a topic that is relevant but has not been previously discussed, the facilitator/teacher can either:
  - Answer the question and move on; or
  - Respond with another question, thereby beginning a discussion about the topic.

**Summarizing Presentations**

A summary is used to reinforce the content of a presentation and provide a review of its main points. The summary should:
● Be brief,
● Draw together the main points, and
● Involve the learners.

Many summary techniques are available to the facilitator/teacher:
● Asking the learners/participants for questions gives learners an opportunity to clarify their understanding of the instructional content. This may result in a lively discussion focusing on those areas that seem to be the most troublesome.
● Asking the learners questions that focus on major points of the presentation helps the learners summarize what they have just heard.
● Administering a practice exercise or test gives learners an opportunity to demonstrate their understanding of the material. After the exercise or test, use the questions as the basis for a discussion by asking for correct answers and explaining why each answer is correct.
● Using a game to review main points provides some variety, when time permits. One popular game is to divide learners into two teams, give each team time to develop review questions and then allow each team to ask questions of the other. The clinical facilitator/teacher serves as moderator by judging the acceptability of questions, clarifying answers and keeping a record of team scores. This game can be highly motivational and serve as an excellent summary at the same time.

Facilitating Group Discussions

The group discussion is a learning method in which most of the ideas, thoughts, questions and answers are developed by the learners. The teacher typically serves as the facilitator and guides the learners/participants as the discussion develops.

Group discussion is useful:
● At the conclusion of a presentation
● After viewing a videotape
● Following a clinical demonstration or skills practice session
● After reviewing a case study or clinical simulation
● After a role play
● Any other time when learners have prior knowledge or experience related to the topic

Attempting to conduct a group discussion when learners/participants have limited knowledge or experience with the topic often will result in little or no interaction and thus an ineffective discussion. When learners are familiar with the topic, the ensuing discussion is likely to arouse learner interest, stimulate thinking and encourage active participation. This interaction affords the facilitator an opportunity to:
● Provide positive feedback,
● Stress key points,
● Develop critical thinking skills, and
• Create a positive learning climate.

The facilitator/teacher must consider a number of factors when selecting group discussion as the learning strategy:

• Discussions involving more than 15 to 20 learners may be difficult to lead and may not give each learner an opportunity to participate.

• Discussion requires more time than an illustrated lecture because of extensive interaction among the learners.

• A poorly directed discussion may move off target and never reach the objectives established by the facilitator.

If control is not maintained, a few learners/participants may dominate the discussion while others lose interest.

In addition to a group discussion that focuses on the session objectives, there are two other types of group discussions that may be used in a training situation:

• General discussion that addresses learners’ questions about a learning event (e.g., why one type of episiotomy is preferred over another)

• Panel discussion in which a moderator conducts a question-and-answer session between panel members and learners

Follow these key points to ensure successful group discussion:

• Arrange seating to encourage interaction (e.g., tables and chairs set up in a U-shape or a square or circle so that learners face each other).

• State the topic as part of the introduction.

• Shift the conversation from the facilitator to the learners.

• Act as a referee and intercede only when necessary.
  Example: “It is obvious that Alain and Ilka are taking two sides in this discussion. Alain, let me see if I can clarify your position. You seem to feel that....”

• Summarize the key points of the discussion periodically.
  Example: “Let’s stop here for a minute and summarize the main points of our discussion.”

• Ensure that the discussion stays on the topic.

• Use the contributions of each learner and provide positive reinforcement.
  Example: “That is an excellent point, Rosminah. Thank you for sharing that with the group.”

• Minimize arguments among learners.

• Encourage all learners to get involved.

• Ensure that no single learner dominates the discussion.

• Conclude the discussion with a summary of the main ideas. The facilitator must relate the summary to the objective presented during the introduction.
Facilitating a Brainstorming Session

Brainstorming is a learning strategy that stimulates thought and creativity and is often used in conjunction with group discussions. The primary purpose of brainstorming is to generate a list of ideas, thoughts or alternative solutions that focus on a specific topic or problem. This list may be used as the introduction to a topic or form the basis of a group discussion. Brainstorming requires that learners/participants have some background related to the topic.

The following guidelines will facilitate the use of brainstorming:

- **Establish ground rules.**
  
  Example: "During this brainstorming session we will be following two basic rules. All ideas will be accepted and Jim will write them on the flipchart. Also, at no time will we discuss or criticize any idea. Later, after we have our list of suggestions, we will go back and discuss each one. Are there any questions? If not..."

- **Announce the topic or problem.**
  
  Example: “During the next few minutes we will be brainstorming and will follow our usual rules. Our topic today is ‘Indications for caesarean section.’ I would like each of you to think of at least one indication. Maria will write these on the board so that we can discuss them later. Who would like to be first? Yes, Ilka..."

- **Maintain a written record** of the ideas and suggestions on a flipchart or writing board. This will prevent repetition and keep learners focused on the topic. In addition, this written record is useful when it is time to discuss each item.

- **Involve the learners and provide positive feedback** in order to encourage more input.

- **Review written ideas and suggestions periodically** to stimulate additional ideas.

- **Conclude brainstorming by reviewing all of the suggestions and clarifying those that are acceptable.**

Facilitating Small Group Activities

There are many times during training when the learners/participants will be divided into several small groups, which usually consist of four to six learners. Examples of small group activities include:

- **Reacting to a case study,** which may be presented in writing or orally by the facilitator/teacher, or introduced through videotape or slides

- **Preparing a role play** within the small group and presenting it to the entire group as a whole

- **Dealing with a clinical situation/scenario,** such as in a clinical simulation, which has been presented by the clinical facilitator/teacher or another learner

- **Practicing a skill** that has been demonstrated by the facilitator/teacher using anatomic models

Small group activities offer many advantages including:

- Providing learners an opportunity to learn from each other

- Involving all learners
Creating a sense of **teamwork** among members as they get to know each other

Providing for a variety of viewpoints

When small group activities are being conducted, it is important that learners/participants are not in the same group every time. Different ways the facilitator/teacher can create small groups include:

- **Assigning** learners to groups
- Asking learners to **count off** “1, 2, 3,” etc., and having all the “1s” meet together, all the “2s” meet together, etc.
- Asking learners to form their own groups
- Asking learners to **draw a group number** (or group name)

The room(s) used for small group activities should be large enough to allow different arrangements of tables, chairs and teaching aids (models, equipment) so that individual groups can work without disturbing one another. The clinical facilitator/teacher should be able to move easily about the room to visit each group. If available, consider using smaller rooms near the primary training room where small groups can go to work on their problem-solving activity, case studies, clinical simulations or role plays. Note that it will be difficult to conduct more than one clinical simulation at the same time in the same room/area.

Activities assigned to small groups should be **challenging, interesting and relevant**; should require **only a short time to complete**; and should be **appropriate for the background of the learners/participants**. Each small group may be working on the same activity or each group may be taking on a different problem, case study, clinical simulation or role play. Regardless of the type of activity, there is usually a time limit. When this is the case, inform groups when there are 5 minutes left and when their time is up.

Instructions to the groups may be presented:

- **In a handout**
- **On a flip chart**
- **On a transparency**
- **Verbally** by the facilitator/teacher

Instructions for small group activities typically include:

- **Directions**
- **Time** limit
- A **situation or problem** to discuss, resolve or role play
- **Learner roles** (if a role play)
- **Questions** for a group discussion

Once the groups have completed their activity, the clinical training facilitator will **bring them together** as a large group for a discussion of the activity. This discussion might involve:
• **Reports** from each group
• **Responses** to questions
• **Role plays** developed in each group and presented by learners in the small groups
• **Recommendations** from each group
• Discussion of the experience (if a clinical simulation)

It is important that the clinical facilitator/teacher provide an effective summary discussion following small group activities. This provides closure and ensures that learners/participants understand the point of the activity.

**Conducting an Effective Clinical Demonstration**

When a new clinical skill is being introduced, a variety of methods can be used to demonstrate the procedure. For example:

- Show **slides** or a **videotape** in which the steps and their sequence are demonstrated in accordance with the accepted performance standards.
- Use **anatomic models** such as the childbirth simulator to demonstrate the procedure and skills.
- Perform **role plays** in which a learner or surrogate client simulates a client and responds much as a real client would.
- Demonstrate the procedure with **clients** in the clinical setting (clinic or hospital).

Whatever methods are used to demonstrate the procedure, the clinical facilitator/teacher should set up the activities using the “**whole-part-whole**” approach.

- Demonstrate the **whole procedure** from beginning to end to give the learner a visual image of the entire procedure or activity.
- **Isolate or break down the procedure** into activities (e.g., pre-operative counseling, getting the client ready, pre-operative tasks, performing the procedure, etc.) and allow practice of the individual activities of the procedure.
- Demonstrate the **whole procedure** again and then allow learners to practice the procedure from beginning to end.

When planning and giving a demonstration of a clinical procedure, either using anatomic models or with clients, if appropriate, the clinical facilitator/teacher should use the following guidelines:

- Before beginning, **state the objectives** of the demonstration and point out what the learners should do (e.g., interrupt with questions, observe carefully, etc.).
- **Make sure that everyone can see** the steps involved.
- **Never** demonstrate the skill or activity incorrectly.
- Demonstrate the procedure in as **realistic** a manner as possible, using instruments and materials in a simulated clinical setting.
● Include all steps of the procedure in the proper sequence according to the approved performance standards. This includes demonstrating “nonclinical” steps such as pre- and postoperative counseling and communication with the client during surgery, use of recommended infection prevention practices, etc.

● During the demonstration, explain to learners what is being done, especially any difficult or hard-to-observe steps.

● Ask questions of learners to keep them involved.
Example: “What should I do next?” “What would happen if...?”

● Encourage questions and suggestions.

● Take enough time so that each step can be observed and understood. Remember that the objective of the demonstration is for learners to learn the skills, not for the clinical facilitator/teacher to show her/his dexterity and speed.

● Use equipment and instruments properly and make sure learners clearly see how they are handled.

In addition, learners/participants should use a clinical skills learning guide developed specifically for the clinical procedure to observe the clinical facilitator’s/teacher’s performance during the initial demonstration. Doing this:

● Familiarizes the learner with the use of competency-based learning guides;

● Reinforces the standard way of performing the procedure; and

● Communicates to learners that the facilitator/teacher, although very experienced, is not absolutely perfect and can accept constructive feedback on her/his performance.

As the role model the learners/participants will follow, the clinical facilitator/teacher must practice what s/he demonstrates (i.e., the approved standard method as detailed in the learning guide). Therefore, it is essential that the facilitator/teacher use the standard method. During the demonstration, the facilitator/teacher also should provide supportive behavior and cordial, effective communication with the client and staff to reinforce the desired outcome.

LEARNING APPROACH

Mastery Learning

The mastery learning approach assumes that all learners can master (learn) the required knowledge, attitudes or skills provided there is sufficient time and appropriate learning methods are used. The goal of mastery learning is that 100 percent of the learners will “master” the knowledge and skills on which the training is based. Mastery learning is used extensively in in-service training where the number of learners, who may be practicing clinicians, is often low. While the principles of mastery learning can be applied in pre-service education, the larger number of learners presents some challenges.

Although some learners are able to acquire new knowledge or new skills immediately, others may require additional time or alternative learning methods before they are able to demonstrate mastery. Not only do people vary in their abilities to absorb new material, but individuals learn best in different ways—through written, spoken or visual means. Effective learning strategies,
such as mastery learning, take these differences into account and use a variety of teaching methods.

The mastery learning approach also enables the learner to have a self-directed learning experience. This is achieved by having the teacher serve as facilitator and by changing the concept of testing and how test results are used. Moreover, the philosophy underlying the mastery learning approach is one of continual assessment of learning where the teacher regularly informs learners of their progress in learning new information and skills.

With the mastery learning approach, assessment of learning is:

- Competency-based, which means assessment is keyed to the learning objectives and emphasizes acquiring the essential skills and attitudinal concepts needed to perform a job, not just to acquiring new knowledge;
- Dynamic, because it enables learners to review continual feedback on how successful they are in meeting the course objectives; and
- Less stressful, because from the outset learners, both individually and as a group, know what they are expected to learn, know where to find the information and have ample opportunity for discussion with the teacher.

Mastery learning is based on principles of adult learning. This means that learning is participatory, relevant and practical. It builds on what the learner already knows or has experienced and provides opportunities for practicing skills. Other key features of mastery learning are that it:

- Uses behavior modeling,
- Is competency-based, and
- Incorporates humanistic learning techniques.

**Behavior Modeling**

Social learning theory states that when conditions are ideal, a person learns most rapidly and effectively from watching someone perform (model) a skill or activity. For modeling to be successful, however, the teacher must clearly demonstrate the skill or activity so that learners have a clear picture of the performance expected of them.

Behavior modeling, or observational learning, takes place in three stages. In the first stage, **skill acquisition**, the learner sees others perform the procedure and acquires a mental picture of the required steps. Once the mental image is acquired, the learner attempts to perform the procedure, usually with supervision. Next, the learner practices until **skill competency** is achieved and s/he feels confident performing the procedure. The final stage, **skill proficiency**, occurs with repeated practice over time. Proficiency is not usually attained, especially on complex skills, during pre-service education, as new learners require many repetitions of a skill to gain proficiency.
<table>
<thead>
<tr>
<th>Skill Acquisition</th>
<th>Knows the steps and their sequence (if necessary) to perform the required skill or activity but needs assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill Competency</td>
<td>Knows the steps and their sequence (if necessary) and can perform the required skill</td>
</tr>
<tr>
<td>Skill Proficiency</td>
<td>Knows the steps and their sequence (if necessary) and effectively performs the required skill or activity</td>
</tr>
</tbody>
</table>

**Competency-Based Training**

Competency-based training (CBT) is learning by doing. It focuses on the specific knowledge, attitudes and skills needed to carry out the procedure or activity. How the learner performs (i.e., a combination of knowledge, attitudes and, most important, skills) is emphasized rather than just the information learned. Competency in the new skill or activity is assessed objectively by evaluating overall performance.

To successfully accomplish CBT, the clinical skill or activity to be taught must be broken down into its essential steps. Each step is then analyzed to determine the most efficient and safe way to perform and learn it. The process is called standardization. Once a procedure, such as active management of the third stage of labor, has been standardized, competency-based learning guides and evaluation checklists can be developed to make learning the necessary steps or tasks easier and evaluating the learner's performance more objective.

An essential component of CBT is coaching, in which the classroom or clinical teacher first explains a skill or activity and then demonstrates it using an anatomic model or other training aid, such as videotape. Once the procedure has been demonstrated and discussed, the teacher then observes and interacts with learners to guide them in learning the skill or activity, monitoring their progress and helping them overcome problems.

The coaching process ensures that the learner receives feedback regarding performance:

- **Before practice**—The facilitator/teacher and learners meet briefly before each practice session to review the skill/activity, including the steps/tasks that will be emphasized during the session.
- **During practice**—The facilitator/teacher observes, coaches and provides feedback to the learner as s/he performs the steps/tasks outlined in the learning guide.
- **After practice**—Immediately after practice, the facilitator/teacher uses the learning guide to discuss the strengths of the learner's performance and also offer specific suggestions for improvement.

**Humanistic Training Techniques**

The use of more humane (humanistic) techniques also contributes to better clinical learning. A major component of humanistic training is the use of anatomic models, which closely simulate the human body, and other learning aids. Working with models initially, rather than with patients/clients, allows learners to learn and practice new skills in a simulated setting rather than with patients/clients. This reduces stress for the learner as well as risk of injury and discomfort to
the patient/client. Thus, effective use of models (humanistic approach) is an important factor in improving the quality of clinical training and, ultimately, service provision.

Before a learner performs a clinical procedure with a patient/client, two learning activities should occur:

- The clinical facilitator/teacher should demonstrate the required skills and patient/client interactions several times using an anatomic model and appropriate videotape.
- Under the guidance of the facilitator/teacher, the learner should practice the required skills and patient/client interactions using the model and actual instruments and/or equipment in a setting that is as similar as possible to the real situation.

Only when skill competency has been demonstrated should learners have their first contact with a patient/client. This often presents challenges in a pre-service education setting when there are large numbers of learners. It is recognized that when a course is only 2 weeks in length and clinical practice must start on the first or second day, some learners may need to begin practice before they have been assessed as competent in the clinical situation. In this case, the instructor must demonstrate the skill and be with the learner for at least the first time they practice a skill.

When mastery learning, which is based on adult learning principles and behavior modeling, is integrated with CBT, the result is a powerful and extremely effective method for providing clinical training. And when humanistic training techniques, such as using anatomic models and other learning aids, are incorporated, training time and costs can be reduced significantly.

Assessing Competence (See Module: Assessment Methods, below)

As described in Humanistic Training Techniques (above), learners should first practice a new clinical skill using anatomic models. For interpersonal and decision-making skills, other methodologies are used. These include role plays, case studies and clinical simulations. Once learners have had adequate practice, including coaching and feedback from their teacher, and before practicing a skill with patients/clients, they are assessed using one of these methodologies.

Ideally, learners will then continue to practice these skills with patients/clients until they are able to demonstrate competency in the clinical setting. This final assessment of competency with patients/clients is necessary before they can perform a skill without supervision. Ongoing practice and assessment with patients/clients may not, however, be possible for all of the skills needed to provide high-quality care during pregnancy and childbirth.

A realistic guideline to follow is that most, if not all, skills associated with normal newborn care should be assessed with patients/clients, while skills that are rarely required should be assessed using other methodologies. Nonetheless, if there are opportunities to practice these rare skills and be assessed with a patient/client, they should be taken.

LEARNING METHODS

A variety of learning methods, which complement the learning approach described in the previous section, are included in the learning resource package. A description of each learning method is provided below.
Illustrated Lectures

Lectures should be used to present information about specific topics. The lecture content should be based on, but not necessarily limited to, the information in the recommended reference manual/textbook/other written materials.

There are two important activities that should be undertaken in preparation for each lecture or interactive presentation. First, the learners should be directed to read relevant sections of the resource manual (and other resource materials, if and when used) before each lecture. Second, the teacher should prepare for lectures by becoming thoroughly familiar with technical content of a particular lecture.

During lectures, the teacher should direct questions to learners and also encourage them to ask questions at any point during the lecture. Another strategy that encourages interaction involves stopping at predetermined points during the lecture to discuss issues/information of particular importance.

Case Studies

The purpose of the case studies included in the learning resource package is to help learners practice clinical decision-making skills. The case studies can be completed in small groups or individually, in the classroom, at the clinical site or as take-home assignments.

The case studies follow the clinical decision-making framework presented under in Module 5: Clinical Decision-Making. Each case study has a key that contains the expected responses. The facilitator/teacher should be thoroughly familiar with these responses before introducing the case studies to learners. Although the key contains the “likely” responses, other responses provided by learners during the discussion may be equally acceptable. The technical content of the case studies is taken from the recommended reference manuals/textbooks listed below or other written materials:


Role Plays

The purpose of the role plays included in the learning resource package is to help learners practice interpersonal communication skills. Each role play requires the participation of two or three learners, while the remaining learners are asked to observe the role play. Following completion of the role play, the teacher uses the questions provided to guide discussion.
Each role play has a key that contains the likely answers to the discussion questions, although other answers provided by learners during the discussion may be equally acceptable. The teacher should be familiar with the answer key before using the role plays.

**Skills Practice Sessions**

Skills practice sessions provide learners with opportunities to observe and practice clinical skills, usually in a simulated setting. The outline for each skills practice session includes the purpose of the particular session, instructions for the teacher, and the resources needed to conduct the session, such as models, supplies, equipment, learning guides and checklists. Before conducting a skills practice session, the teacher should review the session and ensure that she/he can perform the relevant skill or activity proficiently. It will also be important to ensure that the necessary resources are available and that an appropriate site has been reserved. Although the ideal site for conducting skills practice sessions may be a learning resource centre or clinical laboratory, a classroom may also be used providing that the models and other resources for the session can be conveniently placed for demonstration and practice.

The first step in a skills practice session requires that learners review the relevant learning guide, which contains the individual steps or tasks, in sequence (if necessary), required to perform a skill or activity in a standardized way. The learning guides are designed to help learn the correct steps and the sequence in which they should be performed (skill acquisition), and measure progressive learning in small steps as the learner gains confidence and skill (skill competency).

Next, the facilitator/teacher demonstrates the steps/tasks, several times if necessary, for the particular skill or activity and then has learners work in pairs or small groups to practice the steps/tasks and observe each other’s performance, using the relevant learning guide. The teacher should be available throughout the session to observe the performance of learners and provide guidance. Learners should be able to perform all of the steps/tasks in the learning guide before the teacher assesses skill competency, in the simulated setting, using the relevant checklist (see Skill Assessments with Models under Assessment Methods). Supervised practice should then be undertaken at a clinical site before the teacher assesses skill competency with patients/clients, using the same checklist.

The time required to practice and achieve competency may vary from hours to weeks or months, depending on the complexity of the skill, the individual abilities of learners, and access to skills practice sessions. Therefore, numerous practice sessions will usually be required to ensure achievement of competency before moving into a clinical practice area.

**Clinical Simulations**

A clinical simulation is an activity in which the learner is presented with a carefully planned, realistic re-creation of an actual clinical situation. The learner interacts with persons and things in the environment, applies previous knowledge and skills to respond to a problem, and receives feedback about those responses without having to be concerned about real-life consequences. The purpose of clinical simulations is to facilitate the development of clinical decision-making skills.
The clinical simulations included in this learning resource package provide learners with the opportunity to develop the skills they need to address rare or life-threatening situations. Clinical simulation may, in fact, be the only opportunity learners have to experience some rare situations and therefore may also be the only way that a teacher can assess learners’ abilities to manage these situations.

Clinical simulations should be as realistic as possible. This means that the models, equipment and supplies needed for managing the particular complication involved in the simulation should be available to the learner.

Learners will need time and repeated practice to achieve competency in the management of the complex situations presented in the simulations. They should be provided with as many opportunities to participate in simulations as possible. The same simulation can be used repeatedly until the situation presented is mastered.

ASSESSING COMPETENCIES

A variety of assessment methods, which complement both the learning approach and the learning methods described in the previous two sections, are included in the learning resource package. Each assessment method is described below.

Case Studies

Case studies serve as an important learning method, as described earlier. In addition, they provide an opportunity for the facilitator/teacher to assess the development of clinical decision-making skills, using the case study keys as a guide. Assessment can be conducted on an individual basis or in small groups.

Role Plays

Role plays also serve as both a learning method and a method of assessment. Using the role play keys as a guide, the facilitator/teacher can assess learners’ understanding and development of appropriate interpersonal communication skills. Opportunities will arise during role plays for the facilitator to assess the skills of the learners involved, whereas the discussions following role plays will enable the facilitator to assess the attitudes and values of all learners in the context of their role as health care providers.

Clinical Simulations

As with case studies and role plays, clinical simulations serve both as a learning method and a method of assessment. Throughout the simulations, the facilitator/teacher has the opportunity to assess clinical decision-making skills as well as knowledge relevant to a specific topic.

Written Tests

Each module includes a multiple-choice test, or knowledge assessment questionnaire, intended to assess factual recall at the end of the module. The items on the questionnaire are linked to the learning objectives for the module; each questionnaire has an answer sheet for learners and an
answer key for teachers. A score of 85% or more correct answers indicates knowledge-based mastery of the content presented for the particular module. Students who score less than 85% on their first attempt should be given individual guidance to help them learn the required information before completing the test again.

Skill Assessments with Models and Patients/Clients

Skill assessments with models and patients/clients are conducted using skill checklists. The checklists in this learning resource package have been derived from the relevant learning guides. Unlike the learning guides, however, the checklists focus only on the key steps or tasks and enable assessment and documentation of the learner’s/participant’s overall performance of a particular skill or activity. If a checklist is too detailed, it may distract the facilitator/teacher from objectively assessing the learner’s overall performance.

Using checklists in competency-based training:

- Ensures that learners have mastered the clinical skills or activities, first with models and then, where possible, with patients/clients;
- Ensures that all learners have their skills measured according to the same standard; and
- Forms the basis for follow-up observations and evaluations.

When using checklists, it is important that the scoring is completed correctly, as follows:

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Performs the step or task according to the standard procedure or guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsatisfactory</td>
<td>Unable to perform the step or task according to the standard procedure or guidelines</td>
</tr>
<tr>
<td>Not Observed</td>
<td>Unable to perform the step or task according to the standard procedure or guidelines</td>
</tr>
</tbody>
</table>

As described in Skills Practice Sessions under Learning Methods, learners/participants should be able to perform all of the steps/tasks for a particular skill, before the facilitator/teacher assesses skill competency, in a simulated setting, using the relevant checklist. Supervised practice should then be undertaken at a clinical site before the facilitator/teacher assesses skill competency with patients/clients, using the same checklist. It should be noted, however, that there may not be opportunities for all learners to practice the full range of skills required for the management of complications at a clinical site; therefore, competency should be assessed in a simulated setting.

It is important to keep in mind, however, that it will probably not be possible for learners to practice some of the additional skills with patients at a clinical site. For example, obstetric complications are not common; therefore, patients who experience complications may not be available, making it impossible for learners to undertake supervised practice in certain skills, or for skill competency to be assessed at a clinical site. For these skills, practice and assessment of competency should take place in a simulated setting.
STRENGTHENING A CURRICULUM

A curriculum should never be a static document. Curriculum content must continually be revised to remain current, so that students are graduating with the latest evidence-based knowledge and skills. Although curriculum revision and strengthening may take many forms, it is always a process that requires much time, energy, negotiation and advocacy. Therefore, an educational institution must have a group or committee of champions who can move the process forward in an effective manner. These champions should have current knowledge and skills in the content that is being added or revised in the curriculum, as well as knowledge and skills in the principles of instructional design. Updates for these staff may be required, before curriculum-strengthening can begin, if their knowledge and skills are not current.

Planning and Preparing

Revision begins with an assessment of the needs or gaps in the current curriculum. This process may begin with a review of the current job description for the cadre of health care provider whose curriculum is being strengthened. This description of the expected performance should be compared to the competencies that are currently taught and required for graduation. Relevant areas of the job description, and the requisite competencies, should be broken down into the knowledge, skills and attitudes needed to fulfill them. The group members will review what is already being taught. If the requisite competencies are not being taught or if they are not being taught effectively, gaps in knowledge, skills and attitudes in the existing curriculum will be identified and these areas of the curriculum revised. Although new content may be added, it may not always be possible to add time to the course. Therefore, the teaching of other subjects/topics within the course must be adjusted and made more efficient in order to accommodate the new content. Although some projects are designed to revise the entire curriculum, it is generally necessary to work within the boundaries of the existing curriculum.

Another early step in the strengthening process is the development and production of teaching, learning and assessment materials based on current evidence and best practices. Curricula should be consistent with national policy and guidelines, which should be evidence-based. Advocacy work with policy-makers may be required to institute necessary changes to policies and guidelines. The time and effort needed for materials development and production will be determined by the quantities and types of materials identified in the curriculum, as well as the materials already available for use or adaptation. Appropriate reference manuals/texts should be identified and materials developed for students (e.g., case studies, role plays, checklists, exercises), as well as for the teacher (e.g., lesson plans, presentation graphics, assessment tools).

Assessment instruments are needed that can provide feedback on performance during practice and demonstrate a student’s readiness to move forward in the course of study. Assessment instruments and a plan for their application are of particular importance. Commonly, assessment focuses heavily on knowledge. Skills are assessed, but are often based on the number of procedures performed or on the subjective evaluation of the faculty member—rather than on an objective assessment of the students’ ability to perform skills competently.

As the curriculum group identifies competencies and the methods that will be used to teach those competencies, they will also be identifying the equipment and supplies that will be necessary for teaching and learning. Equipment may include writing boards, overhead projectors,
projection boxes, video players and videos, and anatomic models. If many resources are needed, equipping the institutions should be started early to avoid delaying implementation of the strengthened curriculum.

Implementing the Plan

The plan for implementation of the strengthened curriculum in each institution will need to be specific to the needs and conditions of that institution. Planning to orient decision-makers, faculty and clinical staff, and to train additional teachers and clinical staff, and to prepare clinical practice sites is also crucial. Depending on how extensive the changes will be, a school may choose to stagger the introduction of new teaching. For instance a midwifery school might start to strengthen teaching in the first-year classes, and then work forward in the program to introduce it into subsequent courses or clinical practice. Alternately, they may choose to begin with students who are nearing graduation in order to achieve more rapid impact on services in the workplace.

School-specific orientation will be needed to create awareness, understanding and acceptance of the new/updated content among those who will be implementing the strengthened portion(s) of the curriculum. Orientation for school stakeholders could include:

- An overview of the technical content and the evidence base,
- Relevant teaching issues, and
- Action plan for the institution.

Training Activities

Once the times, places, activities and materials for teaching are identified, it will be clear which teachers and clinical site staff need to be trained. These teachers and clinical staff should receive training in both the technical content and the teaching methods that are most appropriate for the content. Training classroom faculty and clinical staff together, whenever possible and appropriate, helps ensure standardization of knowledge and skills between the two groups, and also promotes a sense of working together as a team in the education of students. In addition, instructors who teach in the classroom, may be required to spend a certain amount of time supervising their students in the clinical area. The number of faculty and clinical staff to be trained, as well as the technical content to be mastered, will determine both the time required for training and the number of times the training must be repeated. A limited amount of content, or content that incorporates a discrete set of skills—such as those involved in active management of the third stage of labor—will require less training time than a technical area that requires a very broad and complex set of skills, such as emergency obstetric and neonatal care. Adjunct learning approaches, such as self-paced, computer-assisted or web-based learning, can be an efficient way to teach knowledge (but not skills) to large numbers of teachers and preceptors.

Preparation of Clinical Practice Sites

Identification and preparation of clinical sites where students can practice service delivery as presented in the new/updated curriculum should begin as early as possible in the curriculum-strengthening process. Again, national guidelines and protocols that are updated/evidence-based are foundational to the preparation of clinical sites. It is essential to carefully select appropriate
health care facilities or community health sites to prepare as clinical practice sites. Criteria for site selection and standards for site development include that the site:

- Provides the same level of care as those where students will work after graduation.
- Has administrative and clinical staff who are committed to teaching students and to provision of evidence-based services.
- Has staff that are trained in updated evidence-based practices.
- Has sufficient case load of appropriate patients.
- Has enough space to accommodate the number of students who will practice there.
- Has sufficient supplies and equipment needed.
- Can provide students the opportunity to practice full service provision, not just isolated skills.

Steps in the preparation of clinical sites include the following:

- Orient administrators, supervisors and clinical staff so that they understand the new/updated content and are committed to its implementation.
- Train clinical staff in the knowledge, skills and attitudes necessary to provide services according to updated curriculum (which may require ongoing support).
- Train clinical staff in effective clinical teaching skills such as demonstration, coaching and mentoring.
- Ensure that necessary supplies and equipment are available. Although the national health care system may be able to supply drugs and supplies, providing anatomic models is usually beyond its capacity. The school or donors may be called upon to provide necessary models.

Coordinating Efforts

Regardless of the amount of new/updated content to be introduced, it will undoubtedly have an impact on other courses within the curriculum. In many instances, teaching will not only be integrated vertically throughout different departments or technical areas, but also horizontally across different years or terms or a program. It is therefore critical that all relevant departments, including clinical practice sites, understand and carry out their respective roles in teaching the new/updated content. Teaching activities should be carefully coordinated so that all elements of the new/updated content are covered, and so that the teaching in one department or year is consistent with what is taught in another department or year. One mechanism for facilitating this coordination might be to form a small ongoing committee, with representatives from all relevant departments as well as the clinical practice sites, to act as a coordinating team. Alternatively, the implementation and coordination of the strengthened portion of the curriculum could be added to the agenda of regular staff meetings.

Ensuring Ongoing Progress

Effective teaching programs require ongoing monitoring of teaching. Monitoring, in both classroom and clinical sites, should begin at the same time as implementation. Monitoring is conducted to identify shortcomings and adapt implementation accordingly. The information collected should be used to improve the content, methods and materials used for teaching, and to
assist in future planning. The monitoring plan should include what and how information should be collected, with whom and how the information is to be shared, and how the information will be used by administrative staff, faculty and preceptors.

Types of monitoring information that should be collected may include:

- Quantitative data to answer questions such as:
  - How many students completed the term?
  - How many hours were spent on new/updated content?
  - How many sessions were conducted?
  - What were the results of student assessments?

- Qualitative data such as:
  - Suggestions from students, preceptors and teachers on how to improve content, methods and materials used for teaching
  - Feedback from employers of graduates on performance and evidence of requisite knowledge, skills and attitudes

As teaching institutions and clinical practice sites implement the strengthened portion of the curriculum, they need follow-up and support. This support may be provided by the group/committee of champions or by an outside team with expertise in training skills, in the new/updated curriculum and/or in the curriculum-strengthening process. Follow-up teams can often make objective observations, offer new perspectives and assist with problem-solving, as well as facilitate the flow of information among institutions. Feedback that includes strengths, weaknesses and positive recommendations on ways to improve and solve problems should always be provided at the end of each follow-up team visit.

Successful implementation of a strengthened curriculum, or curriculum portion, requires a careful process that involves:

- A group/committee of champions,
- A revision of current curriculum,
- Development of materials including assessment instruments,
- Equipping schools,
- Orienting stakeholders,
- Identification and preparation of clinical practice sites,
- Training of faculty and clinical staff,
- Coordination of teaching, and
- Ongoing monitoring for improvement.

This process will help ensure that students graduate with the competencies needed to provide quality health services.
GOALS AND OBJECTIVES OF THE WORKSHOP

Goal

To assist facilitators/teachers, tutors and preceptors of midwifery programs to review, revise and update their knowledge and skills in the area of maternal and newborn care so that they will be able to apply that knowledge and skill in teaching students.

Objectives

At the end of the workshop, learners/participants will be able to:

1. Describe the approach to training used in this workshop.
2. Describe the magnitude and causes of maternal and neonatal mortality.
3. Demonstrate infection prevention practices based on World Health Organization guidelines for protecting one’s self and clients.
4. Provide focused antenatal care, including the prevention of malaria in pregnancy and the prevention of mother-to-child transmission of HIV.
5. Demonstrate use of the pregnancy calculator to estimate gestational age and due date.
7. Provide care for a woman and her support person during labor, birth and the immediate postpartum period, including active management of third stage labor, using the clinical decision-making process.
8. Use the partograph as a documentation and management tool for women in labor.
9. Demonstrate the technique of local anesthesia, episiotomy cutting and repair, use of the suture-saving method, and repair of vaginal and cervical lacerations.
10. Provide care to a woman and her baby up to 6 hours postpartum using the clinical decision-making process.
11. Provide family planning care to the postpartum woman.
12. Demonstrate newborn resuscitation.
13. Demonstrate care for a mother and newborn using Kangaroo Mother Care.
15. Demonstrate the skills used for management of postpartum hemorrhage due to uterine atony, retained placenta or placental fragments.
16. Demonstrate the skills used to repair a vaginal sulcus, periurethral or cervical tear.
17. Identify and provide care for a mother with pregnancy-induced hypertension.
18. Identify and provide care for a postpartum mother with a fever.
19. Demonstrate skills in conducting a birth using a vacuum extractor.
20. Describe care of a woman who is bleeding in early or late pregnancy.

21. (Demonstrate skills in providing postabortion care, including performing a manual vacuum aspiration, for a woman with an incomplete abortion.)

22. (Identify challenges and opportunities in midwifery education.)

Add objective about approach to training (Mod 1, or evidence-based medicine (Mod 3) or optional modules (nutrition and PQI)?

Notes:
- Objectives in parentheses above appear in the 3-week schedule but not in the 2-week schedule.
- Time for clinical practice may be changed if there are clients in labor or if a clinic has specific hours of operation.
- In the 2-week course, skill checkout can happen for participants whenever they feel ready. In the 3-week course, skill checkout begins before the clinical rotation starts.
- Experience in the antenatal clinic must happen after the classroom work on antenatal care.
- The lead trainer will be on call with facilitators/teachers and participants on alternate days from 7 to 10 p.m. Trainers and participants will be on call throughout the training starting on Day 2 to take full advantage of clinical experiences. On-call assignments will be made on Day 1.
<table>
<thead>
<tr>
<th>Time</th>
<th>DAY 1 MONDAY</th>
<th>DAY 2 TUESDAY</th>
<th>DAY 3 WEDNESDAY</th>
<th>DAY 4 THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Course Orientation:</strong></td>
<td><strong>Demonstration/Skills practice:</strong></td>
<td><strong>Report:</strong></td>
<td><strong>Illustrated Presentation/Discussion:</strong></td>
</tr>
<tr>
<td></td>
<td>Opening, Welcome, Introductions</td>
<td>Labor and Birth + partograph practice as needed</td>
<td>Teams 1 and 2</td>
<td>Newborn with problems</td>
</tr>
<tr>
<td></td>
<td>Pre-test (45 minutes)</td>
<td>Film and Discussion: Birth in the Squatting Position</td>
<td>Teams 3 and 4</td>
<td>Newborn Resuscitation</td>
</tr>
<tr>
<td></td>
<td>Objectives</td>
<td></td>
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<tr>
<td></td>
<td>Expectations-trainers/participants</td>
<td></td>
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<tr>
<td></td>
<td>Workshop Schedule</td>
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<td></td>
<td><strong>Illustrated Presentation/Discussion:</strong></td>
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<tr>
<td></td>
<td>Approach to Training</td>
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<tr>
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<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td></td>
<td><strong>Course Orientation:</strong> (cont.)</td>
<td><strong>Video:</strong> Suturing and Knot Tying</td>
<td><strong>Demonstration and Skills Practice:</strong></td>
<td><strong>Skills Practice</strong> (cont):</td>
</tr>
<tr>
<td></td>
<td>Using Learning Guide and Checklist</td>
<td>Skills practice: Labor &amp; Birth, including episiotomy and repair</td>
<td>Infection Prevention</td>
<td>Newborn Resuscitation</td>
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<tr>
<td></td>
<td>Team Assignments, On-call</td>
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<td>Rapid Initial Assessment and Shock</td>
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<td>Skills record</td>
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<td></td>
<td>Rounds Report</td>
<td></td>
<td>Illustrated Presentation/Discussion:</td>
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<tr>
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<td>Responsibilities in L&amp;D</td>
<td></td>
<td>Bleeding after Childbirth</td>
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</tr>
<tr>
<td></td>
<td>Tour hospital</td>
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<tr>
<td>0800</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>0845</td>
<td><strong>Illustrated Presentation/Discussion:</strong> Maternal and Neonatal Mortality</td>
<td><strong>Illustrated Presentation/Discussion/Group Work:</strong></td>
<td><strong>Emergency Drill</strong></td>
<td><strong>Demonstration/Skills Practice:</strong></td>
</tr>
<tr>
<td></td>
<td>Discussion: Labor and Childbirth, including Partograph Exercises</td>
<td>Women-Friendly Care</td>
<td></td>
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<tr>
<td></td>
<td><strong>Discussion:</strong> Women-Friendly Care</td>
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<tr>
<td>1000</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>1015</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
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<tr>
<td>1200</td>
<td>Lunch</td>
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<tr>
<td>Time</td>
<td>DAY 1 MONDAY</td>
<td>DAY 2 TUESDAY</td>
<td>DAY 3 WEDNESDAY</td>
<td>DAY 4 THURSDAY</td>
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</tr>
</tbody>
</table>
| 1515 | **Skills Practice:** Partograph | **Review of Pretest**  
 **Skills Practice:**  
 Labor, Birth, Episiotomy | **Demonstration/Skills Practice:**  
 Immediate Newborn Care | **Skills Practice:**  
 Bleeding after childbirth (continued) |
| 1630 | Homework:  
 BMNC Chapter 6,  
 Labor/Childbirth Care, pages 2-37 to 2-82, and Annex, pages 4-7 to 4-9, and Clinical Decision-Making, pages 1-41 to 1-42  
 Partograph, IMPAC, pages S-57 to S-67  
 BMNC, Interpersonal Skills, pages 1-42 to 1-47 | Homework:  
 MNC, Repair episiotomy and repair 1st and 2nd degree vaginal and perineal tears, pages 4-37 to 4-40, and IMPAC, pages P-83 to P-85, and BMNC, Infection Prevention, pages 1-47 to 1-57, and IMPAC, pages C-17 to C-22  
 BMNC, Chapter 8, Newborn Care, pages 2-109 to 2-135 | Homework:  
 IMPAC, Vaginal Bleeding after Childbirth, pages S-25 to S-34  
 BMNC, Manual removal, pages 4-22 to 4-24, and 3-103 to 3-110  
 BMNC, Management of Uterine Atony, page 3-105  
 BMNC, Repair of Cervical Tears, page 4-36 and IMPAC, page P-81 | Homework:  
 Newborn Resuscitation, BMNC, pages 3-99 to 3-101, and IMPAC, pages S-142 to S-146  
 ANC, BMNC, pages 2-5 to 2-36; Postpartum Contraception, BMNC, pages 4-54 to 4-59  
 BMNC, Chapter 9, Common Discomforts and Concerns, pages 3-1 to 3-24 |
<p>| 1630 | Trainer Meeting | Trainer Meeting | Trainer Meeting | Trainer Meeting |
| 1730 | Adjourn | Adjourn | Adjourn | Adjourn |
| 1930 | On-Call: Team 1 and 2 | On-Call: Team 3 and 4 | On-Call: Team 5 and 6 | |</p>
<table>
<thead>
<tr>
<th>TIME</th>
<th>DAY 5 FRIDAY</th>
<th>DAY 6 SATURDAY</th>
<th>SUNDAY</th>
<th>DAY 7 MONDAY</th>
<th>DAY 8 TUESDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0630</td>
<td>Rounds: Teams 5 and 6</td>
<td>Rounds: Teams 7 and 8</td>
<td>Rounds: Teams 1 and 2</td>
<td>Rounds: Teams 3 and 4</td>
<td></td>
</tr>
<tr>
<td>0845</td>
<td>Illustrated Presentation/ Discussion: Antenatal Care, including pregnancy calculation</td>
<td>Illustrated Presentation/ Discussion: Postpartum Care</td>
<td>Illustrated Presentation/ Discussion: Kangaroo Mother Care</td>
<td>Illustrated Presentation/ Discussion: Postpartum Fever</td>
<td>Demonstration/Practice: Kangaroo Mother Care</td>
</tr>
<tr>
<td>1000</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>1015</td>
<td>Demonstration/Practice: Pregnancy calculation</td>
<td>Illustrated Presentation/ Discussion: Breastfeeding NOTE: You may delete this presentation and use the session for practice if you feel the BF content in PPC is sufficient.</td>
<td>Illustrated Presentation/ Discussion: Bleeding in early pregnancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>Illustrated Presentation/ Discussion: Malaria in Pregnancy</td>
<td>Illustrated Presentation/ Discussion: Postpartum Family Planning</td>
<td>Illustrated Presentation/ Discussion: Bleeding in Late Pregnancy</td>
<td>Skills practice (cont): Skills in which individual participants are not competent</td>
<td>Lunch</td>
</tr>
<tr>
<td>1300</td>
<td>Illustrated Presentation/ Discussion: PMTCT</td>
<td>Illustrated Presentation/ Discussion: PMTCT</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>1500</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>TIME</td>
<td>DAY 5 FRIDAY</td>
<td>DAY 6 SATURDAY</td>
<td>SUNDAY</td>
<td>DAY 7 MONDAY</td>
<td>DAY 8 TUESDAY</td>
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</tr>
<tr>
<td>1515</td>
<td>Demonstration/Skills Practice (cont): ANC, including pregnancy calculation</td>
<td>Demonstration/Skills Practice: Postpartum Care, including breastfeeding Mid Training Evaluation</td>
<td></td>
<td></td>
<td>Clinical (cont.)</td>
</tr>
</tbody>
</table>
| 1630  | Homework: Complete Mid-training Evaluation  
Read: BMNC, Life-Threatening Complications, pages 3-89 to 3-93, and Chapter 7, Postpartum Care, pages 2-83 to 2-108, and Breastfeeding support, pages 4-47 to 4-52  
IMPAC S-1 to S-5 and C-15 to C16 | Homework: BMNC Breastfeeding Problems, pages 3-43 to 3-46.  
Review BPMNC PowerPoint slides on Kangaroo Care, Module 17, slides 33 to 38 | Homework: BMNC, Convulsions, etc., pages 3-93 to 3-95, and IMPAC, pages S-35 to S-50 | Homework: IMPAC, pages S-107 to S-114 | |
| 1730  | Adjourn | Adjourn | Adjourn | Adjourn | |
| 1930  | On-Call: Teams 7 and 8 | On-Call: Teams 1 and 2 | On-Call: Teams 3 and 4 | On-Call: Teams 5 and 6 | |
### Best Practices in Maternal and Newborn Care: 2-Week Workshop Schedule for Pre-Service Faculty/Tutors

<table>
<thead>
<tr>
<th>TIME</th>
<th>DAY 9 WEDNESDAY</th>
<th>DAY 10 THURSDAY</th>
<th>DAY 11 FRIDAY</th>
<th>DAY 12 SATURDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0630</td>
<td>Rounds: Teams 5 and 6</td>
<td>Rounds: Teams 7 and 8</td>
<td>Rounds: Team (as needed)</td>
<td>Rounds: Team (as needed)</td>
</tr>
<tr>
<td>0800</td>
<td>Report: Teams 5 and 6</td>
<td>Report: Teams 7 and 8</td>
<td>Report: Team (as needed)</td>
<td></td>
</tr>
<tr>
<td>0845</td>
<td>Clinical</td>
<td>Clinical</td>
<td>Clinical</td>
<td>Individual Participant Skill Checkout:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Infant Resuscitation</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>• Manual Removal of Placenta</td>
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<td></td>
<td></td>
<td>• Internal/External Bimanual</td>
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<td>Compression</td>
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<td></td>
<td>• Active Management of Third Stage</td>
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<td></td>
<td></td>
<td>Labor</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>• Post-Test</td>
</tr>
<tr>
<td>1000</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>1015</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Review of Participant Evaluation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Review of Post-Test</td>
</tr>
<tr>
<td>1200</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>1300</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Practice skills if time</td>
<td>Meeting with trainers, participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Begin skill checkout if participant's</td>
<td>and selected stakeholders to discuss</td>
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<tr>
<td></td>
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<td></td>
<td>ready</td>
<td>the Pre-service Initiative</td>
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<td></td>
<td></td>
<td>accomplishments, challenges and future</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>plans</td>
</tr>
<tr>
<td>1500</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>1515</td>
<td>Clinical (cont.)</td>
<td>Review session for skills checkout</td>
<td>Post-Test</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Practice opportunity</td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>Homework: Complete reading assignments</td>
<td>Homework: Complete reading assignments</td>
<td>Homework: Complete Final Evaluation</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Complete reading assignments</td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
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<tr>
<td>1730</td>
<td>Adjourn</td>
<td>Adjourn</td>
<td>Adjourn</td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>On-Call: Teams 7 and 8</td>
<td>On-Call: As needed</td>
<td>On-Call: As needed</td>
<td></td>
</tr>
</tbody>
</table>

**Administrative Tools - 7**

**Best Practices in Maternal and Newborn Care**

**Learning Resource Package**
Notes:

- Time for clinical practice may be changed if there are clients in labor or if a clinic has specific hours of operation.
- Skill checkout can happen for participants at any point they feel ready.
- Experience in ANC and PP clinic must happen after the classroom work on antenatal care and postpartum care, respectively.
- The lead trainer will be on-call with trainers and participants on alternate days from 7 PM until 10 PM. Trainers and participants will be on call throughout the training starting on Day 2 to take full advantage of clinical experiences. On-call assignments will be made on Day 1.
<table>
<thead>
<tr>
<th>Time</th>
<th>DAY 1 MONDAY</th>
<th>DAY 2 TUESDAY</th>
<th>DAY 3 WEDNESDAY</th>
<th>DAY 4 THURSDAY</th>
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<tbody>
<tr>
<td>0630</td>
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</tbody>
</table>
| 0800 | Course Orientation:  
- Opening  
- Pre-test (45 minutes)  
- Objectives  
- Expectations: trainers/ participants  
- Workshop Schedule | Illustrated Presentation/Discussion: Labor and Childbirth  
Film and Discussion: Birth in the Squatting Position  
Illustrated Presentation/Role Play/Discussion: Immediate Newborn Care | Discussion: Women-friendly care  
Illustrated Presentation/ 
Discussion/Group Work: Clinical Decision-Making | Presentation/Group Work/Discussion: Newborn with Problems  
Demonstration/Skills Practice: Newborn Resuscitation |
| 0845 | 0815 | 0845 | 0845 | |
| 1000 | Break | Break | Break | Break |
| 1015 | Course Orientation (cont.):  
- Using Learning Guide and Checklist  
- Team Assignments, On-call  
- Skills record  
- Rounds Report  
- Responsibilities in L&D  
Illustrated Presentation/Discussion: Approach to training | Skills Practice: Immediate Newborn Care  
Video: Suturing and Knot Typing  
Skills Practice (cont.): Labor and Birth, including episiotomy, repair; immediate newborn care | Illustrated Presentation/Discussion: Infection Prevention  
Demonstration and Practice: Infection Prevention | Illustrated presentation/Discussion: Kangaroo Mother Care  
Demonstration/Skills Practice: Kangaroo Mother Care |
| 1200 | Lunch | Lunch | Lunch | Lunch |
| 1300 | Illustrated Presentation/Discussion: Maternal and Neonatal Mortality Reduction  
Illustrated Presentation/Discussion: Evidence-based medicine | Skills Practice (continued): Labor and Birth, including partograph, episiotomy, repair; immediate newborn care | Illustrated Presentation/Discussion: Rapid Initial Assessment and Shock Emergency Drill | Demonstration/Skills Practice: Assisted Vaginal Delivery and Use of Vacuum Extractor  
Skills Practice: Use of Vacuum Extractor |
| 1500 | Break | Break | Break | |
| 1515 | Illustrated Presentation/Discussion: Partograph | Review of Pre-test  
Tour hospital | Video: Delivery Self Attachment  
Skills Practice: Labor and Childbirth with emphasis on Immediate Care of | Illustrated Presentation/Group Work/Discussion: Bleeding after childbirth |
## Best Practices in Maternal and Newborn Care: 3-Week Workshop Schedule for Pre-Service Faculty/Tutors

<table>
<thead>
<tr>
<th>Time</th>
<th>DAY 1 MONDAY</th>
<th>DAY 2 TUESDAY</th>
<th>DAY 3 WEDNESDAY</th>
<th>DAY 4 THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1630</td>
<td><strong>Practice:</strong> Partograph</td>
<td></td>
<td>Newborn</td>
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<tr>
<td></td>
<td>Homework:</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>BMNC, Chapter 6, Labor/Childbirth Care, pages 2-37 to 2-82, and Annex, pages 4-7 to 4-9, and Clinical Decision-Making, pages 1-41 to 1-42</td>
<td>Partograph, IMPAC, pages S-57 to S-67</td>
<td>BMNC, Repair episiotomy and repair 1st and 2nd degree vaginal and perineal tears, pages 4-37 to 4-40, and IMPAC pages P-83 to P-85</td>
<td>BMNC, Chapter 8, Newborn Care, pages 2-109 to 2-135 Newborn Resuscitation, BMNC, pages 3-99 to 3-101 and IMPAC, pages S-142 to S-146</td>
</tr>
<tr>
<td></td>
<td>BMNC, Interpersonal Skills, pages 1-42 to 1-47</td>
<td></td>
<td>BMNC, Infection Prevention, pages 1-47 to 1-57, and IMPAC, pages C-17 to C-22</td>
<td>BMNC, Repair of Cervical Tears, page 4-36 and IMPAC, page P-81</td>
</tr>
<tr>
<td>1630</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
</tr>
<tr>
<td>1730</td>
<td>Adjourn</td>
<td>Adjourn</td>
<td>Adjourn</td>
<td>Adjourn</td>
</tr>
<tr>
<td>1930</td>
<td>On-Call: Teams 1 and 2</td>
<td>On-Call: Teams 3 and 4</td>
<td>On-Call: Teams 5 and 6</td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>DAY 5 FRIDAY</td>
<td>DAY 6 SATURDAY</td>
<td>SUNDAY</td>
<td>DAY 7 MONDAY</td>
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</tr>
<tr>
<td>0630</td>
<td>Rounds: Teams 1 and 2</td>
<td>Rounds: Teams 3 and 4</td>
<td></td>
<td>Rounds: Teams 5 and 6</td>
</tr>
<tr>
<td>0845</td>
<td><strong>Demonstration/Skills Practice</strong>: Repair of Periurethral, Sulcus and Cervical Lacerations, Manual Removal of Placenta, Internal Bimanual Compression, Aortic Compression</td>
<td><strong>Skills Practice</strong>: Pregnancy calculations</td>
<td></td>
<td><strong>Illustrated Presentation/Discussion</strong>: Postpartum Care including Breastfeeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Illustrated Presentation/Discussion</strong>: Breastfeeding</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: You may delete this presentation and use the Breastfeeding component of the Postpartum Care presentation/discussion.</td>
<td></td>
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</tr>
<tr>
<td>1000</td>
<td><strong>Break</strong></td>
<td><strong>Break</strong></td>
<td></td>
<td><strong>Break</strong></td>
</tr>
<tr>
<td>1015</td>
<td><strong>Skills Practice</strong>: Repair of Periurethral, Sulcus and Cervical Lacerations, Manual Removal of Placenta, Internal Bimanual Compression, Aortic Compression</td>
<td><strong>Discussion</strong>: Birth preparedness/complication readiness</td>
<td><strong>Illustrated Presentation/Discussion</strong>: Malaria in Pregnancy</td>
<td><strong>Demonstration/Skills Practice</strong>: Postpartum Care, including Breastfeeding</td>
</tr>
<tr>
<td>1200</td>
<td><strong>Lunch</strong></td>
<td><strong>Lunch</strong></td>
<td></td>
<td><strong>Lunch</strong></td>
</tr>
<tr>
<td>1300</td>
<td><strong>Illustrated Presentation/Discussion</strong>: Malaria in Pregnancy</td>
<td><strong>Illustrated Presentation/Group Work/Discussion</strong>: PMTCT</td>
<td><strong>Demonstration/Skills Practice</strong>: ANC with pregnancy calculations</td>
<td><strong>Illustrated Presentation/Discussion</strong>: Postpartum Family Planning</td>
</tr>
</tbody>
</table>
## Best Practices in Maternal and Newborn Care: 3-Week Workshop Schedule for Pre-Service Faculty/Tutors

<table>
<thead>
<tr>
<th>TIME</th>
<th>DAY 5 FRIDAY</th>
<th>DAY 6 SATURDAY</th>
<th>SUNDAY</th>
<th>DAY 7 MONDAY</th>
<th>DAY 8 TUESDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Illustration/Discussion: Postpartum Fever</td>
<td>Illustration/Discussion/ Group Work/Discussion: Headaches, Hypertension, Convulsions</td>
</tr>
<tr>
<td>1515</td>
<td>Illustrated Presentation/Discussion: Antenatal Care with pregnancy calculations</td>
<td>Skills Practice (cont.) ANC, pregnancy calculation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>Homework: BMNC, Chapter 7, Postpartum Care, pages 2-83 to 2-108, and Life-Threatening Complications, pages 3-89 to 3-93 IMPAC, pages S-1 to S-5 and C-15 to C16</td>
<td>Homework: BMNC, Breastfeeding support, pages 4-47 to 4-52, and Postpartum Contraception, pages 4-54 to 4-59 Review BPMNC PowerPoint slides on Kangaroo Care, Module 17, slides 33 to 38</td>
<td>Homework: BMNC, Convulsions, etc., pages 3-93 to 3-95, and IMPAC pages S-35 to S-50</td>
<td>Homework: BMNC, Chapter 5, ANC, pages 2-5 to 2-36, and Chapter 9, Common Discomforts and Concerns, pages 3-1 to 3-24</td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
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<td>Trainer Meeting</td>
<td>Trainer Meeting</td>
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<tr>
<td>1730</td>
<td>Adjourn</td>
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<td>Adjourn</td>
<td>Adjourn</td>
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<tr>
<td>1930</td>
<td>On-Call: Teams 7 and 8</td>
<td>On-Call: Teams 1 and 2</td>
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<td>On-Call: Teams 3 and 4</td>
<td>On-Call: Teams 5 and 6</td>
</tr>
</tbody>
</table>
### Best Practices in Maternal and Newborn Care: 3-Week Workshop Schedule for Pre-Service Faculty/Tutors

<table>
<thead>
<tr>
<th>TIME</th>
<th>DAY 9 WEDNESDAY</th>
<th>DAY 10 THURSDAY</th>
<th>DAY 11 FRIDAY</th>
<th>DAY 12 SATURDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0630</td>
<td>Rounds: Teams 1 and 2</td>
<td>Rounds: Teams 3 and 4</td>
<td>Rounds: Teams 5 and 6</td>
<td>Rounds: Teams 7 and 8</td>
</tr>
<tr>
<td>0845</td>
<td><strong>Skills Practice</strong> for individual participants for individual skills in preparation for skills checklist</td>
<td><strong>Review Post-Test</strong></td>
<td><strong>Clinical</strong></td>
<td><strong>Clinical</strong></td>
</tr>
<tr>
<td>1000</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>1015</td>
<td>Individual Participant <strong>Skills Checkout:</strong>  - Infant Resuscitation  - Manual Removal of Placenta  - Internal/External Bimanual Compression  - Active Management of Third Stage of Labor  - MVA</td>
<td><strong>Clinical</strong> or continued practice in simulated setting as needed</td>
<td><strong>Clinical</strong> (cont.)</td>
<td><strong>Clinical</strong> (cont.)</td>
</tr>
<tr>
<td>1200</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch (closing)</td>
</tr>
<tr>
<td>1300</td>
<td>Individual Participant <strong>Skills Checkout</strong> (cont.)</td>
<td><strong>Clinical</strong> (cont.)</td>
<td><strong>Clinical</strong> (cont.)</td>
<td><strong>Clinical</strong> (cont.)</td>
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<tr>
<td>1500</td>
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<td>Break</td>
<td>Break</td>
<td>Break</td>
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<tr>
<td>1515</td>
<td><strong>Illustrated Presentation/Discussion:</strong> Midwifery Education</td>
<td>Report: Teams 7 and 8 (continued, if necessary)</td>
<td>Report: (as needed)</td>
<td>Review week’s clinical experiences</td>
</tr>
<tr>
<td>1630</td>
<td><strong>Post-Test</strong></td>
<td>Review and wrap up</td>
<td>Review and wrap-up</td>
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</tr>
<tr>
<td>1730</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>On-Call: Teams 7 and 8</td>
<td>On-Call: As needed</td>
<td>On-Call: As needed</td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>DAY 13 MONDAY</td>
<td>DAY 14 TUESDAY</td>
<td>DAY 15 WEDNESDAY</td>
<td>DAY 16 THURSDAY</td>
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<tr>
<td>0630</td>
<td>Rounds: Teams 1 and 2</td>
<td>Rounds: Teams 3 and 4</td>
<td>Rounds: Teams 5 and 6</td>
<td>Rounds: Teams 7 and 8</td>
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<tr>
<td>0845</td>
<td>Clinical</td>
<td>Clinical</td>
<td>Clinical</td>
<td>Clinical</td>
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<tr>
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<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>1015</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
</tr>
<tr>
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<td>Lunch</td>
<td>Lunch</td>
<td>Lunch (closing)</td>
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<tr>
<td>1300</td>
<td>Clinical (cont.)</td>
<td>Clinical continued</td>
<td>Clinical (cont.)</td>
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<tr>
<td>1515</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
<td>Clinical (cont.)</td>
</tr>
<tr>
<td>1630</td>
<td>Review and wrap-up</td>
<td>Review and wrap up</td>
<td>Review and wrap-up</td>
<td>Review and wrap-up</td>
</tr>
<tr>
<td>1730</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>On-Call: Teams 7 and 8</td>
<td>On-Call: As needed</td>
<td>On-Call: As needed</td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>DAY 17 FRIDAY</td>
<td>DAY 18 SATURDAY</td>
<td></td>
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<td>-------------------------------</td>
<td>-------------------------------</td>
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<tr>
<td>0630</td>
<td>Rounds: (as needed)</td>
<td>Rounds: (as needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td>Report: (as needed)</td>
<td>Report: (as needed)</td>
<td></td>
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</tr>
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<tr>
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<td>Break</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1015</td>
<td>Clinical</td>
<td>Review clinical experiences</td>
<td></td>
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<tr>
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<td>Lunch</td>
<td>Lunch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1300</td>
<td>Clinical (cont.)</td>
<td>Meeting with trainers, ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>Break</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1515</td>
<td>Post-Course Evaluations</td>
<td>Closing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>Review and wrap-up</td>
<td>Review and wrap-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1730</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td>On-Call: Teams 7 and 8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Time for clinical may be changed if there are clients in labor or if a clinic has specific hours of operation.
- Skill checkout can happen for participants at any point they feel ready.
- Experience in ANC and PP clinic must happen AFTER the classroom work on antenatal care and postpartum care, respectively.
- The lead trainer will be on-call with trainers and participants on alternate days from 7 PM until 10 PM. Trainers and participants will be on call throughout the training starting on Day 2 to take full advantage of clinical experiences. On-call assignments will be made on Day 1.
# FACILITATOR CHECKLIST FOR EFFECTIVE TEACHING

<table>
<thead>
<tr>
<th>STEPS</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREPARATION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Review the “lesson plan” before class.</td>
<td></td>
</tr>
<tr>
<td>2. Assign homework as needed.</td>
<td></td>
</tr>
<tr>
<td>3. Prepare all needed equipment and supplies.</td>
<td></td>
</tr>
<tr>
<td>4. Arrange seating in semi-circle or so learners and facilitators can see each other easily and have a place to write.</td>
<td></td>
</tr>
<tr>
<td>5. Arranges facilitator table so it is not between facilitator and learners.</td>
<td></td>
</tr>
<tr>
<td>6. If using equipment, check equipment is working before class starts.</td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Greet learners and put them at ease.</td>
<td></td>
</tr>
<tr>
<td>2. Speak clearly, loudly and not too fast.</td>
<td></td>
</tr>
<tr>
<td>3. Use simple language that is understood by all.</td>
<td></td>
</tr>
<tr>
<td>4. Encourage two-way communication:</td>
<td></td>
</tr>
<tr>
<td>a. Face learners.</td>
<td></td>
</tr>
<tr>
<td>b. Use learners’ names during discussions.</td>
<td></td>
</tr>
<tr>
<td>c. Move around classroom during information sharing/discussions.</td>
<td></td>
</tr>
<tr>
<td>d. Make regular eye contact with all learners.</td>
<td></td>
</tr>
<tr>
<td>e. Observe learners’ reactions (face and body language) to information and discussions to evaluate level of understanding.</td>
<td></td>
</tr>
<tr>
<td>f. Smile.</td>
<td></td>
</tr>
<tr>
<td><strong>POSITIVE LEARNING ENVIRONMENT</strong></td>
<td></td>
</tr>
<tr>
<td>1. Show respect to all learners.</td>
<td></td>
</tr>
<tr>
<td>2. Be honest about what you know or do not know.</td>
<td></td>
</tr>
<tr>
<td>3. Make environment feel “safe” so that learners say what they think/believe.</td>
<td></td>
</tr>
<tr>
<td>4. Use patience in teaching.</td>
<td></td>
</tr>
<tr>
<td>5. Encourage all learners to participate actively:</td>
<td></td>
</tr>
<tr>
<td>a. Ask if they have anything more they want to add.</td>
<td></td>
</tr>
<tr>
<td>b. Ask questions to find out what learners know (facts).</td>
<td></td>
</tr>
<tr>
<td>c. Ask questions to find out what learners think (ideas/opinions).</td>
<td></td>
</tr>
<tr>
<td>d. Ask learners reasons for their answer(s) (“why” questions).</td>
<td></td>
</tr>
<tr>
<td>6. If answer not correct, do not be critical of learner, but give hints/clues.</td>
<td></td>
</tr>
<tr>
<td>7. Check frequently while teaching if learners understand. If not, repeat or review, or ask a learner to review the information.</td>
<td></td>
</tr>
<tr>
<td>STEPS</td>
<td>RATING</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>PROCEDURE</strong></td>
<td></td>
</tr>
<tr>
<td>1. Introduce topic and explain how the session will be organized.</td>
<td></td>
</tr>
<tr>
<td>2. Present the content in a clear and logical way.</td>
<td></td>
</tr>
<tr>
<td>3. Summarize at end. Can be done by: 1) facilitator; or 2) one learner; or 3) facilitator can ask questions of all learners.</td>
<td></td>
</tr>
<tr>
<td>4. Use visual aids as needed/appropriate (large enough, positioned so all can see, make information clearer for learners, colorful).</td>
<td></td>
</tr>
<tr>
<td>5. Thank group for participation.</td>
<td></td>
</tr>
<tr>
<td>6. Plan correct amount of time for the class.</td>
<td></td>
</tr>
<tr>
<td><strong>OBSERVATION, EVALUATION AND FEEDBACK:</strong> <em>When learners are doing an activity that needs observation, evaluation and feedback, the following guidelines are used by the facilitator:</em></td>
<td></td>
</tr>
<tr>
<td>1. If clinical skill to be practiced by all learners, need to have a minimum ratio of one facilitator to four to six learners.</td>
<td></td>
</tr>
<tr>
<td>2. Facilitator to be with the learners at all times, focusing carefully on what learners are doing and saying.</td>
<td></td>
</tr>
<tr>
<td>3. If learner activity is based on a skill checklist, the facilitator and observing learners follow the activity with their own skill checklist.</td>
<td></td>
</tr>
<tr>
<td>4. Facilitator uses notepad to record: 1) what is happening; 2) positive feedback to give to the learner; 3) areas that need strengthening; and 4) suggestions on how to improve.</td>
<td></td>
</tr>
<tr>
<td>5. Facilitator notes are recorded <strong>during</strong> the time the learner is doing the activity, <strong>not after</strong> the learner is done.</td>
<td></td>
</tr>
<tr>
<td>6. Provide immediate feedback:</td>
<td></td>
</tr>
<tr>
<td>a. First, ask learner for comments about the activity done.</td>
<td></td>
</tr>
<tr>
<td>b. Then, ask the observing learners for any comments.</td>
<td></td>
</tr>
<tr>
<td>c. Finally, after all learners finish their comments, the facilitator should:</td>
<td></td>
</tr>
<tr>
<td>• Praise what the learner did well.</td>
<td></td>
</tr>
<tr>
<td>• Discuss areas to strengthen that were not already mentioned by learners.</td>
<td></td>
</tr>
<tr>
<td>• Give ideas on how to do the strengthening.</td>
<td></td>
</tr>
<tr>
<td>6. Thank everyone for their participation and comments.</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
# DOCUMENT AND EQUIPMENT LIST

## STANDARD TRAINING EQUIPMENT

- White board or chalk board
- White board markers or chalk
- White board eraser
- Overhead transparency projector
- Transparency pens
- Boxlight projector for vacuum extraction presentation (if available, otherwise can photocopy PowerPoint)
- VCR
- Name tags
- Pencils/pens
- Paper
- Pencil erasers
- Pencil sharpeners
- Masking tape
- Cello tape
- Flip charts and stand
- Markers to write on flip charts
- Ruler
- Stapler
- Folders for each participant

## NUMBERS NEEDED

<table>
<thead>
<tr>
<th>DOCUMENTS/MANUALS</th>
<th>NUMBERS NEEDED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PARTICIPANTS</td>
</tr>
<tr>
<td>First Day Orientation and Final Day</td>
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</tr>
<tr>
<td>Registration Form</td>
<td>1 per</td>
</tr>
<tr>
<td>Participant’s Administrative Documents (Handout)</td>
<td>1 per</td>
</tr>
<tr>
<td>Pre-/Post-Test</td>
<td>1 per</td>
</tr>
<tr>
<td>Pre-/Post-Test Key</td>
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</tr>
<tr>
<td>Learning Resource Package</td>
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<tr>
<td>• PowerPoints</td>
<td>1 per</td>
</tr>
<tr>
<td>• Participant’s Guide and Book of Checklists</td>
<td>1 per</td>
</tr>
<tr>
<td>• Facilitator’s Guide</td>
<td>0</td>
</tr>
<tr>
<td>Manual: <em>Basic Maternal and Newborn Care</em></td>
<td>1 per</td>
</tr>
<tr>
<td>Manual: <em>Managing Complications in Pregnancy and Childbirth</em></td>
<td>1 per</td>
</tr>
<tr>
<td>Flip Chart of Participant’s Skills Record</td>
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<tr>
<td>Partograph</td>
<td></td>
</tr>
<tr>
<td>Participant Exercise Handout</td>
<td>1 per</td>
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<tr>
<td>Facilitator Exercise Handout Key</td>
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### DOCUMENTS/MANUALS

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<tr>
<td>Partograph forms (front and back page)</td>
<td>80</td>
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<tr>
<td>Partograph forms (front only)</td>
<td>70</td>
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<tr>
<td>Spirits or alcohol (to clean transparencies) bottle</td>
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<tr>
<td>Transparency – Partograph front page</td>
<td>20</td>
</tr>
<tr>
<td>Transparency – Partograph back page</td>
<td>10</td>
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</tbody>
</table>

**Note:** For participant practice, participants will divide into four teams; therefore, equipment is needed for four teams.

### OTHER EQUIPMENT TO PURCHASE LOCALLY

<table>
<thead>
<tr>
<th>OTHER EQUIPMENT TO PURCHASE LOCALLY</th>
<th>NUMBERS NEEDED</th>
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<td>PARTICIPANTS</td>
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<tr>
<td>Partograph</td>
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<tr>
<td>Giant partograph</td>
<td>2</td>
</tr>
<tr>
<td>Transparency pens (can erase)</td>
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</tr>
<tr>
<td><strong>Stage 1, 2, 3 Labor</strong></td>
<td></td>
</tr>
<tr>
<td>Pillows</td>
<td>2 per team</td>
</tr>
<tr>
<td>Sheets</td>
<td>3 per team</td>
</tr>
<tr>
<td>Newborn model and placenta</td>
<td>1 per team</td>
</tr>
<tr>
<td>Cloth pelvic model</td>
<td>1 per team</td>
</tr>
<tr>
<td>Delivery kits</td>
<td>1 per team</td>
</tr>
<tr>
<td>Adult sphygmomanometer</td>
<td>1 per team</td>
</tr>
<tr>
<td>Adult stethoscope</td>
<td>1 per team</td>
</tr>
<tr>
<td>Fetoscope</td>
<td>1 per team</td>
</tr>
<tr>
<td>Chart: Squatting Position for Labor</td>
<td></td>
</tr>
<tr>
<td>Chart: Positions for Laboring out of Bed</td>
<td></td>
</tr>
<tr>
<td>Cervical dilation display</td>
<td></td>
</tr>
<tr>
<td>Mom support kit: 4 (includes a fan, wash cloth, drinking glass)</td>
<td>1 per team</td>
</tr>
<tr>
<td>Delivery kits:</td>
<td></td>
</tr>
<tr>
<td>• Instrument tray</td>
<td></td>
</tr>
<tr>
<td>• Cord scissors</td>
<td></td>
</tr>
<tr>
<td>• Foley catheter</td>
<td></td>
</tr>
<tr>
<td>• Hemostats (2) to clamp cord or cord clamps</td>
<td></td>
</tr>
<tr>
<td>• Sponge forceps (2)</td>
<td></td>
</tr>
<tr>
<td>Apron</td>
<td>1 per team</td>
</tr>
<tr>
<td>Head covers</td>
<td>1 per team</td>
</tr>
<tr>
<td>Masks</td>
<td>1 per team</td>
</tr>
<tr>
<td>Gloves, sterile</td>
<td>1 per team</td>
</tr>
<tr>
<td>Gloves, non-sterile</td>
<td>1 per team</td>
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</table>
### OTHER EQUIPMENT TO PURCHASE LOCALLY

<table>
<thead>
<tr>
<th>NUMBERS NEEDED</th>
<th>PARTICIPANTS</th>
<th>FACILITATORS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby hats</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier goggles</td>
<td></td>
<td>1 per team</td>
<td></td>
</tr>
<tr>
<td>Gauze, 4” x 4” squares in giant package, non-sterile and not individually wrapped</td>
<td></td>
<td>4 gauze per team</td>
<td></td>
</tr>
<tr>
<td>Baby blankets; need to be large enough to easily wrap baby so baby is completely covered; about 1 meter x 1 meter</td>
<td></td>
<td>3 per team</td>
<td></td>
</tr>
<tr>
<td>Oxytocin vials</td>
<td></td>
<td>1 per team</td>
<td></td>
</tr>
<tr>
<td>Syringe and needle (3cc syringe with 20- or 21-gauge needle)</td>
<td></td>
<td>1 per team</td>
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</tbody>
</table>

### Episiotomy

<table>
<thead>
<tr>
<th>NUMBERS NEEDED</th>
<th>PARTICIPANTS</th>
<th>FACILITATORS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponges of upholstery quality: should not tear easily when thread pulled through. Please Test! Size 8” x 4” x 4”</td>
<td>1 per</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Suture Needles: Reusable round body 1/2 circle suture needles either with suture already attached or with an “eye” so suture can be pulled through eye.</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Rolls/spools regular sewing thread (good quality so goes through practice sponge easily), if suture needles do not have suture attached</td>
<td>10 rolls/spools</td>
<td>10 rolls/spools</td>
<td></td>
</tr>
<tr>
<td>Chart: Suturing for episiotomy and lacerations</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Video: Suture and Knot Tying</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Episiotomy kits</td>
<td>1 per 2 persons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 cc syringe with 1 1/2” needle (pretend filled with .5% lidocaine)</td>
<td>1 per</td>
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</tbody>
</table>

### PP Care

<table>
<thead>
<tr>
<th>NUMBERS NEEDED</th>
<th>PARTICIPANTS</th>
<th>FACILITATORS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centimeter measuring tape</td>
<td>1 per</td>
<td>1 per</td>
<td></td>
</tr>
<tr>
<td>BP cuff</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stethoscope</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillows</td>
<td>2 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheets</td>
<td>3 per team</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hemorrhage

<table>
<thead>
<tr>
<th>NUMBERS NEEDED</th>
<th>PARTICIPANTS</th>
<th>FACILITATORS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft pelvis and placenta models</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery kit</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillows and sheets</td>
<td></td>
<td>Mentioned above</td>
<td></td>
</tr>
<tr>
<td>Sock (that can stretch to put infant into and to practice cervical laceration repair)</td>
<td></td>
<td>1 per</td>
<td></td>
</tr>
<tr>
<td>Suture needles and thread</td>
<td></td>
<td>Mentioned above</td>
<td></td>
</tr>
<tr>
<td>OTHER EQUIPMENT TO PURCHASE LOCALLY</td>
<td>NUMBERS NEEDED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARTICIPANTS</td>
<td>FACILITATORS</td>
<td>TOTAL</td>
</tr>
<tr>
<td>Oxytocin, syringe and needle</td>
<td></td>
<td></td>
<td>Mentioned above</td>
</tr>
<tr>
<td>Episiotomy set</td>
<td></td>
<td></td>
<td>Mentioned above</td>
</tr>
<tr>
<td><strong>Infection Prevention</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic buckets</td>
<td></td>
<td></td>
<td>6 large</td>
</tr>
<tr>
<td>Large steamer pot with lid (for steaming/boiling)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorine bottle</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Heavy cleaning gloves</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Toothbrush</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Scissors</td>
<td>Mentioned above</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hemostat</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Syringe and needle</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Examination or sterile gloves</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Apron</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Foley catheter</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Instrument tray</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Dish soap</td>
<td></td>
<td></td>
<td>1 bottle</td>
</tr>
<tr>
<td>Video: Infection Prevention</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Infant Resuscitation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby Annie Resuscitation Model</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby blankets</td>
<td>3 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal Ambu bag</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal masks (Size 0 and Size 1)</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mannequin (anatomic model) face shields</td>
<td>1 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen tubing</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newborn suction tubes</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby hats</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Shock – Rapid Assessment and Management</strong></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stethoscope</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP cuff</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillows</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheets</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placenta model</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV fluids and IV set</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foley catheter</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Something to serve purpose of oxygen cylinder</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER EQUIPMENT TO PURCHASE LOCALLY</td>
<td>NUMBERS NEEDED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARTICIPANTS</td>
<td>FACILITATORS</td>
<td>TOTAL</td>
</tr>
<tr>
<td>Making Models for Breastfeeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knee-high nylons</td>
<td>2 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber bands (neutral color)</td>
<td>2 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewing needles: need 22</td>
<td>1 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thread: white or tan color – 2 large rolls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office scissors</td>
<td></td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>Stuffing for breasts (cotton wool or synthetic pillow stuffing)</td>
<td>Need enough to stuff 44 individual breasts (22 pairs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strip of cloth about 4 inches (13 cm) wide by 5 feet (1 ½ meters) long: need 22. (Two or three sheets can be purchased and cut into strips)</td>
<td>1 per</td>
<td></td>
<td>2–3 sheets</td>
</tr>
<tr>
<td>Marking pen, permanent – brown - 5</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Video: Delivery Self Attachment</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Kangaroo Baby Care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby models</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cloths to wrap baby and mom together</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby hats</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy Calculator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy calculators</td>
<td>1 per</td>
<td>1 per</td>
<td></td>
</tr>
<tr>
<td>Participant exercise handout</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focused Antenatal Care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centimeter measuring tape</td>
<td>1 per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BP cuff</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stethoscope</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloves</td>
<td>1 per team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillows and sheets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy calculators</td>
<td>1 per</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# MID-TRAINING EVALUATION FORM

<table>
<thead>
<tr>
<th>PLEASE EVALUATE THE FOLLOWING STATEMENTS:</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>UN-DECIDED</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The class and clinical areas are satisfactory for my learning.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The facilitators/teachers communicate clearly and simply.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The facilitator’s/teacher’s methods of teaching are satisfactory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. The topics covered are relevant to my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The facilitators/teachers and trainees are interacting well together.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The training is updating my knowledge and skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Teaching aids are useful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Practice in the clinical area is important and helpful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please answer the following questions. Use the back for more writing space if needed.

1. Is there anything discussed/taught in Week 1 that you do not understand? Please explain:

2. What are the skills in which you need the most support? Please explain:
## FINAL EVALUATION FORM

<table>
<thead>
<tr>
<th>PLEASE EVALUATE THE FOLLOWING STATEMENTS:</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>UN-DECIDED</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. For the work I do, the training was appropriate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Training facilities and arrangements were satisfactory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The facilitators/teachers were knowledgeable and skilled.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The facilitators/teachers were fair and friendly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The training updated my knowledge and skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Training objectives were met.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Teaching aids were useful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Practice in the clinical areas was important and helpful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please answer the following questions. Use the back for more writing space if needed.

1. What was the most useful part of the training course for you?

2. What part of the training course was not useful to you?

3. What suggestions do you have to improve the training course?

4. Other comments:
## MODULE 1: APPROACH TO TRAINING—SESSION PLAN

**MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE**

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approach to Training</td>
<td>40 min</td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

*By the end of this session, participants will be able to describe:

- Mastery learning
- Adult learning
- Competency-based training
- Humanistic training

### Methods and Activities

**Small group work: How I learned to make bread (10 min)**
- Divide into groups of two.
- Discuss the steps in learning to make bread.

**Illustrated presentation/discussion with case study: Approach to training (30 min)**
- Have two or three participants describe steps in learning to make bread.
- Use bread-making example throughout presentation.
- Intersperse presentation with questions, examples and discussion.
- Be sure to cover all of the following topical areas:
  - Mastery learning
  - Stages of learning
    - Skill acquisition
    - Skill competency
    - Skill proficiency
  - Behavior modeling
  - Competency-based training
  - Coaching
  - Humanistic training techniques
  - Preparation for clinical performance
- Summarize key points.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
KNOWLEDGE ASSESSMENT: APPROACH TO TRAINING

Instructions: Write the letter of the single **best** answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Adult learning principles include:
   a. Learning is participatory, relevant and practical
   b. Builds on what the learner already knows or has experienced
   c. Learners retain knowledge best when punished for incorrect behavior
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Behavior modeling focuses on:
   a. Learning by doing
   b. Specific knowledge, attitudes and skills needed to carry out the procedure or activity
   c. How the learner performs rather than just the information learned
   d. All of the above
   e. None of the above

3. Humanistic teaching stresses
   a. Use of anatomic models and simulated learning situations
   b. Initially working with models rather than with patients allows learners to learn and practice new skills in a simulated setting
   c. Always treating a patient
   d. All of the above

Instructions: In the space provided, print a capital **T** if the statement is *true* or a capital **F** if the statement is *false*.

4. Mastery learning assumes that all learners can learn the required knowledge, attitudes or skills provided sufficient time is allowed and appropriate learning methods are used

5. Coaching occurs after knowledge mastery and before a demonstration of clinical practice.

6. Competency-based training emphasizes how the learner performs rather than just the information learned
KNOWLEDGE ASSESSMENT: APPROACH TO TRAINING—
ANSWER KEY

Instructions: Write the letter of the single **best** answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Adult learning principles include:
   a. Learning is participatory, relevant and practical
   b. Builds on what the learner already knows or has experienced
   c. Learners retain knowledge best when punished for incorrect behavior
   d. **a) and b)**
   e. a) and c)
   f. All of the above

2. Behavior modeling focuses on:
   a. Learning by doing
   b. Specific knowledge, attitudes and skills needed to carry out the procedure or activity
   c. How the learner performs rather than just the information learned
   d. All of the above
   e. **None of the above**

3. Humanistic teaching stresses
   a. Use of anatomic models and simulated learning situations
   b. Initially working with models rather than with patients allows learners to learn and practice new skills in a simulated setting
   c. Always treating a patient
   d. **All of the above**

Instructions: In the space provided, print a capital T if the statement is **true** or a capital F if the statement is **false**.

4. Mastery learning assumes that all learners can learn the required knowledge, attitudes or skills provided sufficient time is allowed and appropriate learning methods are used. **TRUE**

5. Coaching occurs after knowledge mastery and before a demonstration of clinical practice. **FALSE**

6. Competency-based training emphasizes how the learner performs rather than just the information learned. **TRUE**
Session Objectives

- By the end of the session, the participant will be able to describe:
  - Mastery learning:
    - Acquisition
    - Competency
    - Proficiency
  - Adult learning
  - Competency-based training
  - Humanistic training

Mastery Learning

- Assumes that all learners can master (learn) the required knowledge, attitudes or skills provided sufficient time is allowed and appropriate learning methods are used
- Goal: 100 percent of the learners will “master” the knowledge and skills on which the learning is based

How did you learn to make bread?

- Discuss in pairs of two
- Following two-by-two discussion, have several people describe to the larger group how they learned to bake bread
- Label as types of learning/teaching and use as reference examples throughout rest of session
Mastery Learning (cont.)

Takes differences into account:
- Some learners are able to acquire new knowledge or new skills immediately
- Others require additional time or alternative learning methods
- Individuals learn best in different ways—through written, spoken or visual means
- Use a variety of teaching methods

Based on principles of adult learning:
- Learning is participatory, relevant and practical
- Builds on what the learner already knows or has experienced
- Provides opportunities for practicing skills
- Uses behavior modeling
- Is competency-based
- Incorporates humanistic learning techniques

Stages of Learning

Skills learning usually takes place in three stages:
- **Skill acquisition.** The learner sees others perform the skill and acquires a mental picture of the required steps. The learner then attempts to perform the procedure, usually with supervision.
- **Skill competency.** Next, the learner practices until skill competency is achieved, and s/he feels confident performing the procedure.
- **Skill proficiency** occurs with repeated practice over time.

<table>
<thead>
<tr>
<th>Skill Acquisition</th>
<th>Knows the steps and their sequence (if necessary) to perform the required skill or activity but <strong>needs assistance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill Competency</td>
<td>Knows the steps and their sequence (if necessary) and can <strong>perform</strong> the required skill</td>
</tr>
<tr>
<td>Skill Proficiency</td>
<td>Knows the steps and their sequence (if necessary) and <strong>effectively performs</strong> the required skill or activity</td>
</tr>
</tbody>
</table>
**Skill Acquisition**

Bread-baking example: The learner can bake bread as long as s/he has a recipe that outlines all of the ingredients as well as a colleague to guide the learner in the steps. Learner **needs assistance**.

**Skill Competency**

The learner can bake bread and needs to refer to the recipe only occasionally, and needs minimal coaching from a colleague. Learner **can perform** the required skill, although hesitantly.

**Skill Proficiency**

The learner can bake bread without referring to the recipe and does not need coaching. Learner **effectively performs** the skill of baking bread.

---

**Behavior Modeling**

- When conditions are ideal, a person learns most rapidly and effectively from watching someone perform (model) a skill or activity.
- Trainer must clearly demonstrate the skill or activity so that learners have a clear picture of the performance expected of them.

---

**What is meant by “Behavior Modeling”?**

- And how does it help learning?
- Have you ever used it?
  - If so, how/when?

---

**Question ??**

- How is competency-based training different from any other training?
- Which type of training do you most commonly see used?
Competency-Based Training

- Learning by doing
- Focuses on the specific knowledge, attitudes and skills needed to carry out the procedure or activity
- How the learner performs (i.e., a combination of knowledge, attitudes and, most important, skills) is emphasized rather than just the information learned
- Competency in the new skill or activity is assessed objectively by evaluating overall performance

Competency-Based Training (cont.)

- Break down the skill or activity into essential steps
- Analyze each step to determine the most efficient and safe way to perform and learn it (standardization)
- Once a procedure has been standardized, develop competency-based learning guides and evaluation checklists to make learning the necessary steps or tasks easier and evaluating the learner’s performance more objective

Coaching

- An essential component of CBT
- First explain a skill or activity, then demonstrate it using an anatomic model or other training aid, such as a video
- Once the procedure has been demonstrated and discussed, observe the learners and guide them in learning the skill or activity, monitoring their progress and helping them overcome problems

Coaching (cont.)

Coaching ensures that the learner receives feedback regarding performance:
- Before practice — Teacher and learners meet briefly before each practice session to review the skill, activity, and/or tasks
- During practice — Teacher observes, coaches and provides feedback to the learner as s/he performs the steps/tasks outlined in the learning guide
- After practice — Immediately after practice, the learning guide is used to discuss the learner’s performance, including strengths and specific suggestions for improvement
What is “Humanistic Training”? 

- Use of anatomic models (and other learning aids) which closely simulate the human body
- Initially working with models rather than with patients allows learners to learn and practice new skills in a simulated setting:
  - Reduces stress for the learner
  - Reduces risk of injury and discomfort to the patient
- Always treat patient/client with utmost respect:
  - Put the patient’s/client’s well-being first
  - Respect dignity, modesty, socio-cultural background

Preparation for Clinical Performance

Before performing a clinical procedure with a patient:
- The clinical teacher should demonstrate the skills and patient interactions several times using an anatomic model, role plays or other simulations
- Under the guidance of the teacher, the learner should practice the required skills and patient interactions using the model, role plays or other simulations and actual instruments in a setting that is as similar as possible to the real situation

How do you decide when a student is ready to begin working in a clinical situation (Clinical Practicum)?
Skill Competency

- Only when skill competency has been demonstrated should learners have their first contact with a patient
- May be challenging in a pre-service education setting due to large numbers of learners
- Before any learner provides services to a patient, however, it is important that the learner demonstrate skill competency using models, role plays or simulations, especially for core skills

Summary

- When mastery learning, based on adult learning principles and behavior modeling, is integrated with CBT, the result is a powerful and extremely effective method for providing clinical training
- When humanistic training techniques are incorporated, training time and costs can be significantly reduced

References


## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maternal and Neonatal Mortality Reduction</td>
<td>45 min</td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

*By the end of this session, participants will be able to describe:*

- Magnitude of maternal and neonatal mortality
- Causes of maternal and neonatal mortality
- Historical and current interventions to reduce maternal and neonatal mortality

### Methods and Activities

**Illustrated presentation/discussion with case study: Every pregnancy is at risk (45 min)**

- Presentation:
  - Global scope of maternal mortality
  - Global scope of newborn mortality
  - Global causes of maternal mortality
  - Global causes of newborn mortality
  - Pathway to survival
  - Ineffective approaches to reduce maternal mortality
  - Importance of skilled attendance to mortality reduction

- Intersperse presentation with questions, examples and discussion.
- Summarize key points.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
KNOWLEDGE ASSESSMENT:
MATERNAL AND NEWBORN MORTALITY REDUCTION

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The number of maternal deaths globally each year is closest to:
   a. One-quarter million
   b. 600,000
   c. 2 million

2. The two largest causes of maternal mortality globally are:
   a. Sepsis and postpartum hemorrhage
   b. Hemorrhage and hypertensive disease
   c. Postpartum hemorrhage and obstructed labor

3. Every year, the number of newborns who die during the first month of life is approximately:
   a. 600,000
   b. 2 million
   c. 4 million

4. Interventions that have proven most successful in reducing maternal mortality include:
   a. Use of risk approach to determine which women need specialized care
   b. The use of a skilled birth attendant who has access to emergency care
   c. Providing universal antenatal care

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The three main causes of neonatal mortality globally are asphyxia, prematurity and infection. _____

6. Maternal mortality began to drop in the United Kingdom and in Sri Lanka when antenatal care was introduced. _____
KNOWLEDGE ASSESSMENT: MATERNAL AND NEWBORN MORTALITY REDUCTION—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The number of maternal deaths globally each year is closest to:
   a. One-quarter million
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   c. Postpartum hemorrhage and obstructed labor

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   b. The use of a skilled birth attendant who has access to emergency care
   c. Providing universal antenatal care

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The three main causes of neonatal mortality globally are asphyxia, prematurity and infection.  TRUE

6. Maternal mortality began to drop in the United Kingdom and in Sri Lanka when antenatal care was introduced.  FALSE
“Every Pregnancy is at Risk”: Current Approach to Reduction of Maternal and Neonatal Mortality

Best Practices in Maternal and Newborn Care

Session Objectives

- To review:
  - Magnitude of maternal and neonatal mortality
  - Causes of maternal and neonatal mortality
  - Interventions to reduce maternal and neonatal mortality:
    - Traditional birth attendant
    - Antenatal care
    - Risk screening
    - Skilled attendant at childbirth
    - Postnatal care

What is Safe Motherhood?

“A woman’s ability to have a SAFE and healthy pregnancy and childbirth.”

Maternal Mortality: A Global Tragedy

- Annually, 529,000 women die of pregnancy related complications:
  - 99% in developing world
  - ~1% in developed countries
Maternal Health: Scope of Problem

- 180–200 million pregnancies per year
- 75 million unwanted pregnancies
- 50 million induced abortions:
  - 20 million unsafe abortions
- 30 million spontaneous abortions
- Approximately 600,000 maternal deaths (1 per minute)
- 1 maternal death = 30 maternal morbidities

Ask the group: What are the major causes of maternal mortality?

Other direct causes include embolism, ectopic pregnancy, anesthesia-related. Indirect causes include: malaria, heart disease. Adapted from: WHO analysis of causes of maternal deaths: A systematic review. The Lancet, vol 367, April 1, 2006.

Causes of Maternal Mortality

- Hemorrhage 31%
- Sepsis 11%
- Hypertensive Disorder 10%
- Anemia 8%
- Obstructed Labor 7%
- Indirect 14%
- HIV 3%
- Other direct causes 5%
- Unsafe Abortion 5%
- Unclassified 6%

Neonatal Health: Scope of Problem

Every year:
- 4 million neonatal deaths (first month of life):
  - Of those who die in the first month, 2/3 die in the 1st week
  - Of those who die in the first week, 2/3 die in the first 24 hours
- Eight neonatal deaths every minute
- 4 million stillbirths
Ask the group: What are major causes of neonatal mortality?

Causes of Newborn Death

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus</td>
<td>7%</td>
</tr>
<tr>
<td>Sepsis/pneumonia</td>
<td>27%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Congenital</td>
<td>14%</td>
</tr>
<tr>
<td>Asphyxia</td>
<td>7%</td>
</tr>
<tr>
<td>Sepsis</td>
<td>11%</td>
</tr>
<tr>
<td>Preterm</td>
<td>28%</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>3%</td>
</tr>
<tr>
<td>Infection</td>
<td>30%</td>
</tr>
</tbody>
</table>

But why do these women and newborns die?

Modified Pathway to Survival

1. Recognize Problem
2. Get First Aid Care
3. Decide to Seek Care
4. Seek Care
5. Get Quality EOC Care

Maternal and Newborn Health Services

- Good quality maternal and newborn health services are not universally available and accessible:
  - ≥ 35% receive no antenatal care
  - ~ 50% of deliveries not attended by skilled provider
  - ~ 70% receive no postpartum care during the first 6 weeks after delivery
Ask the group: What are some interventions that have not proved successful in reducing mortality?

Interventions to Reduce Maternal and Newborn Mortality

Historical review:
- Traditional birth attendants
- Antenatal care
- Risk screening

Current approach:
- Skilled attendant at delivery

Historical Review of Interventions

The flawed assumption:
Most life-threatening obstetric and newborn complications can be predicted or prevented.

The Crucial Facts

- EVERY woman and newborn faces risk
- Providers and the facility must be prepared to address emergencies at all times
- When problems are managed in a timely manner, many lives are saved
Interventions: Traditional Birth Attendants

Advantages:
- Community-based
- Sought out by women
- Low-tech
- Teaches clean delivery
- Can provide obstetric first aid at home
- Can provide and teach families preventive care and obstetric first aid

Disadvantages:
- Limited access to emergency drugs and other resources
- Distance from referral facility may delay emergency treatment
- Knowledge, skills and training not standardized

Conclusion

TBAs are useful in the maternal health network, but there will not be a substantial reduction in maternal mortality by TBAs delivering clinical services alone. There needs to be a household-to-hospital continuum of care to have the greatest impact.

Interventions: Antenatal Care

- Antenatal care clinics started in US, Australia, Scotland between 1910–1915
- New concept: screening healthy women for signs of disease
- By 1930s, large number (1,200) of ANC clinics opened in UK
- No reduction in maternal mortality

Interventions in ANC (cont.)

- However, ANC was widely used as a maternal mortality reduction strategy in 1980’s and early 1990s
- Is ANC important? YES!!
- Focused, individualized care leads to early detection of problems and birth preparation
Best Practices in Maternal and Newborn Care
Learning Resource Package

Module 2: Maternal and Neonatal Mortality Reduction Handouts - 6

Interventions: Risk Screening

Disadvantages:
- Very poorly predictive
- Wastes valuable client-provider time
- If risk-negative, gives false security
- Conclusion: Cannot identify those at risk of maternal mortality

Every Pregnancy Is at Risk

Interventions: Skilled Attendant at Childbirth

- Proper training, range of skills
- Anticipate possible problems
- Recognize onset of complications
- Observe woman, monitor fetus/infant
- Perform essential basic interventions
- Refer mother/baby to higher level of care if complications arise requiring interventions outside realm of competence

Every Pregnancy Is at Risk

Maternal Mortality Reduction
Sri Lanka 1940–1985

Health system improvements:
- Introduction of system of health facilities
- Expansion of midwifery skills
- Decreased use of home delivery and delivery by untrained birth attendants
- Spread of family planning

85% births attended by trained personnel

Maternal Mortality Reduction
Sri Lanka 1940–1985
The Higher the Proportion of Deliveries Attended by Skilled Provider, the Lower the Country’s Maternal Mortality Ratio

Summary

- Skilled attendant at childbirth is an effective intervention
- The household-to-hospital continuum of care has been shown to be more effective than facility-based care alone.


References

ACCESS Program. 2006. Home and Community-Based Health Care for Mothers and Newborns. (Technical guide.) ACCESS Program: Baltimore, MD.


## MODULE 3: EVIDENCE-BASED MEDICINE—SESSION PLAN

### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Evidence-Based Medicine (EBM)</td>
<td>60 min</td>
</tr>
</tbody>
</table>

## SESSION OBJECTIVES

**By the end of this session, participants will be able to:**

- Provide a definition of evidence-based medicine
- Provide introduction of levels of evidence based on research methods and study design
- Present examples of EBM in RH practice

### Methods and Activities

**Illustrated lecture/discussion: Evidence-based medicine in midwifery** (20 min)
- Ask questions of the larger group throughout the session to elicit their experiences as midwifery educators.
- Intersperse presentation with questions, examples and discussion.
- Be sure to include all of the following in the session/discussion:
  - Definition of evidence-based medicine:
  - Sources of evidence:
    - General
    - Specific tools: from WHO, from other UN agencies, national guidelines
  - Levels of evidence
  - Illustrative relative risk and odds ratio
  - Challenges in providing evidence-based care
  - WHO resources

**Small group discussion: Exercises in evidence-based practice** (40 min)
- Use four practices from slide [1]: Use of the partograph for the management of labor; 2) Labor support and position in labor; 3) Routine vs. restricted use of episiotomy; 4) Active management of the 3rd stage of labor for four different groups to discuss. Discussion should be guided by focused questions on slide: What is the current practice in your country/institution? What is the rationale for current practice? Do you think current practice is evidence-based? Are all practitioners trained and competent in these skills?
- Have report and discussion from each group.
- Summarize results from group discussion.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
  OR
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Flip charts
- Markers
- Note paper from groups to record responses
KNOWLEDGE ASSESSMENT: EVIDENCE-BASED MEDICINE

**Instructions:** Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The use of a partograph for decision-making during labor has become accepted as an evidence-based practice because:
   a. Midwives and physicians have been using it since the 1980s
   b. A randomized, multi-center trial conducted by WHO showed significant numerous positive benefits from its use
   c. Women-friendly care supports reduced frequency of vaginal exams during labor
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Mechanisms for ensuring the practice of evidence-based medicine include:
   a. Keeping abreast with the evidence
   b. Setting and implementing standard protocols
   c. Audit and peer review
   d. Evaluating outcomes
   e. All of the above

**Instructions:** In the space provided, print a capital **T** if the statement is **true** or a capital **F** if the statement is **false**.

3. Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. _____

4. Support from a female relative improves labor outcomes. _____

5. Although only one study has been conducted to determine the efficacy of active management of the third stage of labor (AMSTL), the study was well-designed and showed significant reduction in postpartum hemorrhage when AMSTL was used. _____
KNOWLEDGE ASSESSMENT: EVIDENCE-BASED MEDICINE—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

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   a. Midwives and physicians have been using it since the 1980s
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. TRUE

4. Support from a female relative improves labor outcomes. TRUE

5. Although only one study has been conducted to determine the efficacy of active management of the third stage of labor (AMSTL), the study was well-designed and showed significant reduction in postpartum hemorrhage when AMTSL was used. FALSE
Evidence-Based Medicine in Maternal and Newborn Health

What is evidence-based medicine?

- **Definition**: Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.

Source: Oxford Centre for Evidence-Based Medicine.
Where do we obtain evidence to be used in our midwifery education and practice?

- Ideally, all clinicians would know the best methods for the care of each medical condition or situation
- In reality, this is not the case, so we must rely on evidence gathered by the scientific community to guide our clinical decision-making
- All evidence is not equally reliable so we must be able to tell the difference

Where do we find tools for translating research into practice?

- WHO – Examples:
  - IMPAC series – MCPC, MNP, ECPG
  - Medical Eligibility Criteria for Contraceptive Use
  - Standards, e.g., PMTCT of syphilis
- Other UN agencies
- National guidelines and protocols

All evidence is not created equal.
Levels of Evidence

<table>
<thead>
<tr>
<th>Level</th>
<th>Evidence Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1a</td>
<td>Systematic review of randomized controlled trials</td>
</tr>
<tr>
<td>1b</td>
<td>Individual randomized controlled trials</td>
</tr>
<tr>
<td>B 2a</td>
<td>Systematic review of cohort studies</td>
</tr>
<tr>
<td>2b</td>
<td>Individual cohort studies</td>
</tr>
<tr>
<td>3a</td>
<td>Systematic review of case-control studies</td>
</tr>
<tr>
<td>3b</td>
<td>Individual case-control studies</td>
</tr>
<tr>
<td>C 4</td>
<td>Case studies</td>
</tr>
<tr>
<td>D 5</td>
<td>Expert opinion without explicit critical appraisal</td>
</tr>
</tbody>
</table>

### Levels of Evidence Chart

- **A**: Systematic review of randomized controlled trials
- **1a**: Individual randomized controlled trials
- **B**: Systematic review of cohort studies
- **2a**: Individual cohort studies
- **3a**: Systematic review of case-control studies
- **3b**: Individual case-control studies
- **C**: Case studies
- **D**: Expert opinion without explicit critical appraisal

### Relative Risk/Odds Ratio

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective Effect</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Deleterious Effect</td>
<td>&gt; 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative Risk (95% CI)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

### Routine Intrapartum Fetal Monitoring

- 4 studies
- 1579 patients

<table>
<thead>
<tr>
<th>Relative Risk (95% CI)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

**Endpoints**
- CS rates
- Detection of fetal cardiac abnormalities
- Apgar
- Signs of neurological abnormalities
- Perinatal interventions
- Perinatal Mortality
Small Group Exercise

- Each group is assigned one of the following EBM practices for discussion:
  1. Use of the partograph for the management of labor
  2. Labor support and position in labor
  3. Routine vs. restricted use of episiotomy
  4. Active management of the 3rd stage of labor

- Questions for Discussion:
  1. What is the current practice in your country/institution?
  2. What is the rationale for current practice
  3. Do you think current practice is evidence-based?
  4. Are all practitioners trained and competent in these skills?

Partograph and Criteria for Active Labor

- Label with patient identifying information
- Note fetal heart rate, color of amniotic fluid, presence of moulding, contraction pattern, medications given
- Plot cervical dilation
- Alert line starts at 4 cm; from here, expect to dilate at rate of 1 cm/hour
- Action line: If patient does not progress as above, action is required

WHO Partograph Trial

- Objectives:
  - To evaluate impact of WHO partograph on labor management and outcome
  - To devise and test protocol for labor management with partograph
- Design: Multicenter trial randomizing hospitals in Indonesia, Malaysia and Thailand
- No intervention in latent phase until after 8 hours
- At active phase action line consider: Oxytocin augmentation, cesarean section, or observation AND supportive treatment

WHO Partograph: Results of Study

<table>
<thead>
<tr>
<th></th>
<th>Before Implementation</th>
<th>After Implementation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deliveries</td>
<td>1,825</td>
<td>1,723</td>
<td>0.028</td>
</tr>
<tr>
<td>Labor &gt; 18 hours</td>
<td>6.4%</td>
<td>3.4%</td>
<td>0.002</td>
</tr>
<tr>
<td>Labor augmented</td>
<td>20.7%</td>
<td>9.1%</td>
<td>0.023</td>
</tr>
<tr>
<td>Postpartum sepsis</td>
<td>0.70%</td>
<td>0.21%</td>
<td>0.028</td>
</tr>
<tr>
<td>Normal Women</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode of delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous cephalic</td>
<td>842 (83.9%)</td>
<td>786 (86.3%)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Forceps</td>
<td>341 (3.4%)</td>
<td>227 (2.5%)</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Position in Labor and Childbirth

- Allow freedom in position and movement throughout labor and childbirth
- Encourage any non-supine position:
  - Side lying
  - Squatting
  - Hands and knees
  - Semi-sitting
  - Sitting

Position in Labor and Childbirth (cont.)

Use of upright or lateral position compared with supine or lithotomy position is associated with:

- Shorter second stage of labor (5.4 minutes, 95% CI 3.9–6.9)
- Fewer assisted deliveries (OR 0.82, CI 0.69–0.98)
- Fewer episiotomies (OR 0.73, CI 0.64–0.84)
- Fewer reports of severe pain (OR 0.59, CI 0.41–0.83)
- Less abnormal heart rate patterns for fetus (OR 0.31, CI 0.11–0.91)
- More perineal tears (OR 1.30, CI 1.09–1.54)
- Blood loss > 500 mL (OR 1.76, CI 1.34–3.32)

Support of the Woman

- Give woman as much information and explanation as she desires
- Provide care in labor and childbirth at a level where woman feels safe and confident
- Provide empathetic support during labor and childbirth
- Facilitate good communication among caregivers, the woman and her companions
- Continuous empathetic and physical support is associated with shorter labor, less medication and epidural analgesia, and fewer operative deliveries

Presence of Female Relative during Labor: Results

Randomized controlled trial in Botswana: 53 women with relative; 56 without

<table>
<thead>
<tr>
<th>Labor Outcome</th>
<th>Experimental Group (%)</th>
<th>Control Group (%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous vaginal delivery</td>
<td>91</td>
<td>71</td>
<td>0.03</td>
</tr>
<tr>
<td>Vacuum delivery</td>
<td>4</td>
<td>16</td>
<td>0.03</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>6</td>
<td>13</td>
<td>0.03</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>53</td>
<td>73</td>
<td>0.03</td>
</tr>
<tr>
<td>Amniotomy</td>
<td>30</td>
<td>54</td>
<td>0.01</td>
</tr>
<tr>
<td>Oxytocin</td>
<td>13</td>
<td>30</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Source: Gupta and Nisodem 2000.


Madi et al. 1999.
Presence of Female Relative during Labor: Conclusion

Support from female relative improves labor outcomes

Madi et al. 1999.

Restricted Use of Episiotomy: Objectives and Design

- Objective: To evaluate possible benefits, risks and costs of restricted use of episiotomy vs. routine episiotomy
- Design: Meta-analysis of six randomized control trials

Carroli and Belizan 2000.

Restricted Use of Episiotomy: Maternal Outcomes Assessed

- Severe vaginal/perineal trauma
- Need for suturing
- Posterior/anterior perineal trauma
- Perineal pain
- Dyspareunia
- Urinary incontinence
- Healing complications
- Perineal infection

Source: Carroli and Belizan 2000.

Restricted Use of Episiotomy: Results of Cochrane Review

<table>
<thead>
<tr>
<th>Clinically Relevant Morbidities</th>
<th>Relative Risk</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posterior perineal trauma</td>
<td>0.88</td>
<td>0.84–0.92</td>
</tr>
<tr>
<td>Need for suturing</td>
<td>0.74</td>
<td>0.71–0.77</td>
</tr>
<tr>
<td>Healing complications at 7 days</td>
<td>0.69</td>
<td>0.56–0.85</td>
</tr>
<tr>
<td>Anterior perineal trauma</td>
<td>1.79</td>
<td>1.55–2.07</td>
</tr>
</tbody>
</table>

- No increase in incidence of major outcomes (e.g., severe vaginal or perineal trauma nor in pain, dyspareunia or urinary incontinence)
- Incidence of 3rd degree tear reduced (1.2% with episiotomy, 0.4% without)
- No controlled trials on controlled delivery or guarding the perineum to prevent trauma

Outcome of Routine Episiotomy vs. Restricted Use: A Systematic Review

- No benefit in terms of perineal lacerations, pain or pain medication use
- No benefit in preventing urinary or fecal incontinence
- No benefit in preventing pelvic relaxation
- Painful intercourse more common in women who have had an episiotomy


Indicated Use of Episiotomy: Reviewer’s Conclusions

- Implications for practice: Clear evidence to restrict use of episiotomy in normal labor
- Implications for research: Further trials needed to assess use of episiotomy at:
  - Assisted delivery (forceps or vacuum)
  - Preterm delivery
  - Breech delivery
  - Predicted macrosomia
  - Presumed imminent tears (threatened 3rd degree tear or history of 3rd degree tear with previous delivery)


Best Practices: Third Stage of Labor

- Active management of third stage for ALL women:
  - Oxytocin administration
  - Controlled cord traction
  - Uterine massage after delivery of the placenta to keep the uterus contracted
- Routine examination of the placenta and membranes
  - 22% of maternal deaths caused by retained placenta
- Routine examination of vagina and perineum for lacerations and injury


Risk of Postpartum Hemorrhage

<table>
<thead>
<tr>
<th>Management of Third Stage of Labor</th>
<th>Blood Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiologic*</td>
<td>18.0%</td>
</tr>
<tr>
<td>Active (oxytocin)**</td>
<td>2.7%</td>
</tr>
<tr>
<td>Misoprostol**</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Evidence for Active Management of the 3rd Stage of Labor

<table>
<thead>
<tr>
<th>Duration 3rd stage (median)</th>
<th>Active Management</th>
<th>Physiologic Management</th>
<th>OR and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration 3rd stage (median)</td>
<td>Bristol</td>
<td>Hinchingbrooke</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Third stage &gt; 30 minutes</td>
<td>Bristol</td>
<td>Hinchingbrooke</td>
<td>25 (2.9%)</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>Bristol</td>
<td>Hinchingbrooke</td>
<td>18 (2.1%)</td>
</tr>
<tr>
<td>Therapeutic oxytocics</td>
<td>Bristol</td>
<td>Hinchingbrooke</td>
<td>54 (6.4%)</td>
</tr>
</tbody>
</table>

Challenges in Providing Evidence-Based Reproductive Health Care

- Keeping abreast with the evidence
- Setting and implementing standard protocols
- Audit and peer review
- Evaluating outcomes

Accessing WHO

- [http://www.who.int](http://www.who.int)
  - Health topics
  - Publications
  - Search

References


References (cont.)


## MODULE 4: WOMEN-FRIENDLY CARE—SESSION PLAN

### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
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<tbody>
<tr>
<td></td>
<td>Discussion: Women-Friendly Care</td>
<td>45 min</td>
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</table>

**SESSION OBJECTIVES**

*By the end of this session, participants will be able to:*

- Describe women-friendly care
- Discuss the importance of women-friendly care
- Describe strategies to ensure women-friendly care is practiced

<table>
<thead>
<tr>
<th>Methods and Activities</th>
<th>Materials/Resources</th>
</tr>
</thead>
</table>
| **Small group discussion: Women-friendly care (25 min)** | • Boxlight projector  
  • PowerPoint presentation  
  OR  
  • Overhead projector with transparencies (Handouts of presentations if no electricity) |
| • Divide participants into groups of three to five participants to discuss questions provided in PowerPoint slides:  
  o How would you define “women-friendly care”?  
  o Why is women-friendly care important?  
  o Give some examples of care you have seen that is not women-friendly.  
  o Give some examples of care that is women-friendly.  
  o How can you help ensure that your students will value and learn to provide women-friendly care?  
| • Discuss answers from groups. | • Flip charts  
  • Markers  
  • Note paper from groups to record responses |
| **Summarize and review with presentation. (20 min)** |               |
| • Elicit examples from group during presentation. |               |

**Knowledge assessment may not be appropriate since this is a discussion. However, assessment tool is provided.**
KNOWLEDGE ASSESSMENT: WOMEN-FRIENDLY CARE

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Women-friendly care means that:
   a. Women have access to hospitals and doctors for primary care
   b. Protects women from information about themselves or their care when danger signs, or dangerous conditions, appear
   c. Empower women to become active participants in their care
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Some examples of women-friendly care include:
   a. Speaking to the woman in her own language
   b. Individualizing care to women’s needs
   c. Respecting cultural norms
   d. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Students will learn to value and provide women-friendly care if you provide consistent rebuke and punishment for not being friendly. _____

4. Women-friendly care is life-saving, as studies have shown that women may refuse to seek care from a provider who “abuses” them or does not treat them well, even if the provider is skilled in preventing and managing complications. _____

Module 4: Women-Friendly Care - 2  
Best Practices in Maternal and Newborn Care  
Learning Resource Package
KNOWLEDGE ASSESSMENT: WOMEN-FRIENDLY CARE—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Women-friendly care means that:
   a. Women have access to hospitals and doctors for primary care
   b. Protects women from information about themselves or their care when danger signs, or dangerous conditions, appear
   c. **Empower women to become active participants in their care**
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Some examples of women-friendly care include:
   a. Speaking to the woman in her own language
   b. Individualizing care to women’s needs
   c. Respecting cultural norms
   d. **All of the above**

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Students will learn to value and provide women-friendly care if you provide consistent rebuke and punishment for not being friendly.  
   **FALSE**

4. Women-friendly care is life-saving, as studies have shown that women may refuse to seek care from a provider who “abuses” them or does not treat them well, even if the provider is skilled in preventing and managing complications.  
   **TRUE**
Women-Friendly Care: A Discussion

Best Practices in Maternal and Newborn Care

Divide into Groups of 3–5 Participants

Discuss the following questions:

- How would you define “women-friendly care”?  
- Why is women-friendly care important?  
- Give some examples of care you have seen that is not women-friendly.  
- Give some examples of care that is women-friendly.  
- How can you help ensure that your students will value and learn to provide women-friendly care?

After Small Group Discussion . . .

. . . Reconvene as a large group to share your thoughts, conclusions and recommendations . . .

Discussion Guide for Facilitator

- The next slides will have some points you will want to bring out during the discussion.
- Be sure to allow, and build on, participant contributions as much as possible in summarizing the discussions.
How would you define “women-friendly care”?

- Provides services that are acceptable to the woman:
  - Respects beliefs, traditions, and culture
  - Includes family, partner, or other support person in care
  - Provides relevant and feasible advice
- Empowers woman and her family to become active participants in care
- Considers the rights of the woman:
  - Right to information about her health
  - Right to be informed about what to expect during visit
  - Obtains permission/consent prior to exams and procedures
- Ensures that all health care staff use good interpersonal skills
- Considers the emotional, psychological, and social well-being of the woman

Why is women-friendly care important?

Women-friendly care is life-saving, as studies have shown that women may refuse to seek care from a provider who “abuses” them or does not treat them well, even if the provider is skilled in preventing and managing complications.

Give some examples of care that is not women-friendly

- Does not respect woman or her culture or background
- Rude, offensive, demeaning language by health personnel
- Physically restrains, pushes or hits the woman
- Insists on routine procedures that are convenient for the health care provider but may be shameful or disgusting to the woman, e.g., lithotomy position only, routine episiotomy, frequent vaginal exams, assembly-line fashion of care
- Excludes partner or companion from care
- Separates mother and baby

Give some examples of care that is women-friendly

- Individualizes care to woman’s needs
- Recognizes the richness and spiritual significance of community and culture:
  - Is aware of traditional beliefs regarding pregnancy and childbirth
  - Cooperates and liaises with traditional health care system when possible
  - Provides culturally sensitive care
- Respects and supports the mother-baby dyad:
  - Encourages bonding
  - Keeps baby with mother
  - Places baby on mother’s abdomen (at breast) immediately after birth
Give some examples of care that is women-friendly (cont.)

- Speaks to the woman in her own language
- Observes rules and norms of her culture as appropriate
- Is aware of who makes decisions in her life and involves that person in discussions and decisions
- Works with traditional birth attendants when possible
- Learns about traditional practices:
  - Promotes/builds on positive traditional practices
  - Offers alternatives to those that are harmful

How can you help ensure that your students will value and learn to provide women-friendly care?

- Consistent role modeling of women-friendly care
- Use of women-friendly approaches in simulated settings, e.g., with anatomic models
- Emphasis of women-friendly care during teaching of all procedures and types of care
# MODULE 5: CLINICAL DECISION-MAKING—SESSION PLAN

**MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE**

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Clinical Decision-Making</td>
<td>45 min</td>
</tr>
</tbody>
</table>

## SESSION OBJECTIVES

*By the end of this session, participants will be able to:*
- Describe steps in clinical decision-making
- Apply clinical decision-making steps to real life clinical situations

### Methods and Activities

<table>
<thead>
<tr>
<th>Group work: Case study from non-clinical situation (10 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divide participants into groups of two to five to discuss CDM Case Study 5.1.</td>
</tr>
<tr>
<td>Following small group work, reassemble to discuss case study.</td>
</tr>
</tbody>
</table>

### Illustrated presentation/discussion: Clinical decision-making (20 min)

- Use Case Study 5.2 to “walk” the group through each step of the clinical decision-making process.
- Discuss issues that arise during presentation and questioning.
- Use PowerPoint slides to summarize steps.
- Be sure to cover all of the following:
  - Define clinical decision-making.
  - Provide examples of clinical decision-making tools.
  - Describe advantages/usefulness of clinical-decision-making.
  - Describe each step in clinical decision-making:
    - Gather information.
    - Interpret information.
    - Develop care plan.
    - Implement care plan.
    - Evaluate results of implementation of care plan.
    - Continue or revise care.

### Group Work: Case study from their own experience (15 min)

- Return to small groups.
- Each group is to choose one situation in clinic or ward from their own experience while caring for a woman. Then divide their decision-making process into steps.
- Record steps on flip chart.
- Reassemble and select two groups to report to larger group.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Flip charts
- Markers
CASE STUDY EXERCISE: CLINICAL DECISION-MAKING

CASE STUDY 5.1: HOW DO WE SOLVE PROBLEMS IN EVERYDAY LIFE?

Purpose
This case study is to help you learn the decision-making steps by thinking about an example in everyday life.

Directions
Put the story sentence number that shows what decision-making step Sam’s mother is taking into the decision-making chart that follows.

The Story of Sam

Four-year-old Sam runs into the house. He is crying and holding his head. Sam’s mother asks: “What happened to you?”

- Sam answers: “Some big boys dropped a rock on my head from up in the tree.”
- The mother looks at her child’s head, examines the wound, and feels around his skull.
- She sees that he has a small, shallow cut, but the rest of his head is not injured. There is no swelling or bleeding.
- The mother decides that Sam is not bleeding and does not have a serious injury.
- The mother washes the cut and covers it.
- She tells Sam to rest and stay away from the bigger boys.

Step 6 of the Decision-Making Steps starts the decision-making steps again. What decision-making steps is Sam’s mother taking in the sentences below?

- The next day she asks Sam, “Does your head still hurt?” He says, “No, I feel fine.”
- She also looks at the wound to see if it is healing.
- The mother sees that the wound is not swollen and there is no drainage or redness.
- She decides that the wound is healing and that Sam is well.
<table>
<thead>
<tr>
<th>DECISION-MAKING STEPS</th>
<th>PUT THE STORY SENTENCE NUMBER THAT SHOWS WHAT PROBLEM-SOLVING STEP SAM’S MOTHER IS TAKING INTO THE PROBLEM-SOLVING CHART BELOW:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1.A</strong>&lt;br&gt;GATHER INFORMATION:&lt;br&gt;TAKE A HISTORY</td>
<td>Example: 1</td>
</tr>
<tr>
<td><strong>STEP 1.B</strong>&lt;br&gt;GATHER INFORMATION:&lt;br&gt;DO A PHYSICAL EXAMINATION</td>
<td></td>
</tr>
<tr>
<td><strong>STEP 2</strong>&lt;br&gt;INTERPRET INFORMATION AND IDENTIFY PROBLEMS</td>
<td></td>
</tr>
<tr>
<td><strong>STEP 3</strong>&lt;br&gt;DECIDE ON A PLAN OF CARE</td>
<td></td>
</tr>
<tr>
<td><strong>STEP 4</strong>&lt;br&gt;IMPLEMENT PLAN</td>
<td></td>
</tr>
<tr>
<td><strong>STEP 5</strong>&lt;br&gt;EVALUATE RESULTS</td>
<td></td>
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<tr>
<td><strong>STEP 6</strong>&lt;br&gt;CONTINUE OR CHANGE PLAN</td>
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</table>
CASE STUDY EXERCISE: CLINICAL DECISION-MAKING

CASE STUDY 5.2: HOW DO WE MAKE DECISIONS IN CLINICAL CARE?

Purpose
This case study is to help you learn the decision-making steps by thinking about an example in everyday life.

Directions
Put the scenario step number that shows what clinical decision-making step Midwife Mary is taking into the clinical decision-making chart that follows.

Midwife Mary Caring for Mrs. A.

- Midwife Mary is caring for Mrs. A., who is in early labor. She wants to know the baby’s fetal heart rate, so she listens to the mother’s abdomen with a fetal stethoscope between contractions. She counts the beats and notes its regularity. She also notes that Mrs. A. is lying on her back.

- She remembers that the clinical guidelines state that the normal range for a fetal heart during early labor is 120–160 beats per minute. She notes that the fetal heart rate is 110 beats per minute.

- She decides to record the fetal heart rate on the partograph, to let Mrs. A. walk around and to help her to lie on her side whenever she is in bed.

- Midwife Mary continues to care for Mrs. A. as planned above.

- After 15 minutes, Midwife Mary listens to the fetal heart rate again and hears that it is 130 beats per minute and regular.

- Midwife Mary helps Mrs. A. to continue with ambulation and lying on her side and monitors the fetal heart rate every 30 minutes.
<table>
<thead>
<tr>
<th>DECISION-MAKING STEPS</th>
<th>PUT THE SCENARIO SENTENCE NUMBER THAT SHOWS WHAT DECISION-MAKING STEP MIDWIFE MARY IS TAKING INTO THE CHART BELOW:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1</strong> GATHER INFORMATION:</td>
<td>Example: 1</td>
</tr>
<tr>
<td><strong>STEP 2</strong> INTERPRET INFORMATION AND IDENTIFY PROBLEMS</td>
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</table>
KNOWLEDGE ASSESSMENT: CLINICAL DECISION-MAKING

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The clinical decision-making process:
   a. Is continuous and ongoing
   b. Should be implemented repeatedly as the clinical situation changes
   c. Should be implemented repeatedly as different needs or problems arise
   d. a) and b)
   e. a) and c)
   f. All of the above

2. The development of a care plan is:
   a. Based on the findings of the assessment
   b. Individualized
   c. The collaborative responsibility of care provider, woman and family
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Clinical decision-making occurs before developing a care plan and does not need to occur again for that client/patient. _____

4. The first step in clinical decision-making is identifying the problem(s). _____

5. Legally, if an intervention is not documented, it has not been performed. _____
KNOWLEDGE ASSESSMENT: CLINICAL DECISION-MAKING—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The clinical decision-making process:
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Clinical decision-making occurs before developing a care plan and does not need to occur again for that client/patient.  
   FALSE

4. The first step in clinical decision-making is identifying the problem(s).  
   FALSE

5. Legally, if an intervention is not documented, it has not been performed.  
   TRUE
Clinical Decision-Making

Best Practices in Maternal and Newborn Care

Session Objectives

By end of session, participants will be able to:

- Describe steps in clinical decision-making
- Apply clinical decision-making steps to real life clinical situations

Let’s look at a case study from everyday life

- Divide participants into groups of 2 to 5 participants to discuss CDM Case Study 1
- Following small group work, reassemble to discuss case study

What Is clinical decision-making?

- A purposeful, organized thinking process that links assessment with care provision and evaluation of care through series of logical steps
- Also known as:
  - Problem-solving approach
  - SOAP or SOAPIER
  - Decision-making approach
- Leads to purposeful, safe and effective care

Jhpiego in partnership with Save the Children, Constella Futures, The Academy for Educational Development, The American College of Nurse-Midwives and IMA World Health
Ongoing Process

- The clinical decision-making process is ongoing and occurs throughout the continuum of care:
  - The provider implements the process repeatedly as the clinical situation changes and different needs or problems emerge

Clinical Decision-Making: Advantages

- Clinical decision-making helps the provider:
  - Collect info in an organized way, saving time and resources
  - Breaks process into clear steps to avoid “jumping the gun”
  - Use information so a problem or need can be correctly identified
  - Give focused care, avoiding unnecessary, inappropriate or excessive treatments or care
  - Evaluate the effectiveness of the care provided

Pass out copies of CDM Case Study 2

- Read the case study together
- Walk participants through each step, illustrating which step of decision-making process is involved
- Summarize with next slides

Steps in Clinical Decision-Making

1) Gather information/Make an observation:
   - History
   - Physical examination
   - Testing (labs, investigations)
   - Includes both what the provider observes and what the woman reports
   - The information gathered in this step is considered in the context of the other steps
Steps in Clinical Decision-Making (cont.)

2) Interpret information/Identify problems:
   - Consider each sign/symptom in context of other findings
   - Compare signs/symptoms to accepted descriptions/definitions of health and disease
   - Consult reliable sources of up-to-date information
   - Predict what may happen out of inaction and out of alternative actions

Steps in Clinical Decision-Making (cont.)

3) Develop care plan:
   - Based on assessment/findings
   - Individualized
   - Collaborative – responsibility shared by care provider, woman and family

4) Implement care plan—also collaborative

Steps in Clinical Decision-Making (cont.)

5) Evaluate care plan:
   - An ongoing process – monitor continuously
   - Deem effective when:
     - Improves or maintains woman’s health
     - Restores abnormal findings to normal
     - Addresses woman’s needs
     - Is acknowledged as valuable by woman and her family

6) Change or continue action

Group Work

- Participants return to small groups.
- Each group is to take one situation in clinic or ward from their own experience while caring for a woman. Then divide the decision-making process into steps.
- Record steps on flip chart.
- Reassemble and select 2 groups to report to larger group.
**Medico-Legal Issues**

- While clinical decision-making is essential to sound care provision, documentation of:
  - Information gathered
  - Plan of care
  - Implementation of care
  - Evaluation and follow-up is essential to prevent litigation.
- If an intervention was not documented, it was not done.

**Medico-Legal Case Study**

- Mother who is G3P2 at 29 weeks gestation arrives in admission area, complaining of indigestion.
- Midwife examines woman, cervix is closed, no palpable contractions.
- Midwife teaches woman danger signs and when to return to hospital, including return if waters break or contractions begin or no improvement by next day.
- Midwife did not document teaching.
- Woman did not return when waters broke and bleeding started and baby died.
- Midwife/hospital sued and found guilty because if teaching was not documented, legally it is not considered to have happened.

**References**


# Module 6: Best Practices in Infection Prevention—Session Plan

## Maternal and Newborn Care: Technical Update

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<tr>
<th>Session</th>
<th>Topic</th>
<th>Time</th>
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<tbody>
<tr>
<td></td>
<td>Best Practices in Infection Prevention</td>
<td>120 min</td>
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</table>

### Session Objectives

*By the end of this session, participants will be able to:*
- Describe the disease transmission cycle
- Outline key IP principles
- Discuss appropriate handwashing and antisepsis
- Discuss appropriate gloving and personal protective equipment
- Outline safe handling of sharps
- Discuss proper instrument processing and waste disposal

### Methods and Activities

**Illustrated presentation/discussion: Infection prevention (30 min)**
- Ask questions of the larger group throughout the session.
- Intersperse presentation with questions, examples and discussion.
  - The six stages of the disease transmission cycle
  - Ways to prevent disease transmission/spread
  - Importance of infection prevention
  - Handwashing: When and how
  - Alcohol handrub: What it is and how to make it
  - Antisepsis
  - Gloving: When and how
  - Personal protective equipment
  - Global statistics on occupational exposure
  - Safe handling of sharps
  - Instrument processing: Decontamination, cleaning, sterilization, HLD, storage
  - Housekeeping
  - Waste disposal

**Grab bag of questions (10 min)**
- Allow 12 people (or 12 pairs) to draw question from bag and answer.
- Provide correct answer following each question.

**Demonstration of IP practices (20 min)**
- Demonstrate:
  - Handwashing and gloving
  - Sharps disposal and passing sharps in container
  - Preparation of chlorine solution
  - Wrapping instruments for autoclave

Allow participants to practice demonstrated skills (60 min).

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Grab bag with questions
- Surgical and exam gloves
- Simulated sink, water, soap
- Sharps container; container for passing sharps
- Simulated chlorine, water, bucket, measure
- Instruments and cloth for wrapping
GRAB BAG QUESTIONS: INFECTION PREVENTION*

1. Immediately after a delivery, wash gloved hands in the labor room sink.

2. Clean labor bed with warm soapy water immediately after delivery.

3. How should you clean up a blood spill on the floor?

4. What should you wear for infection prevention when handling a baby after delivery before the baby has been bathed?

5. The best way to prevent needlestick injuries is to recap the needle immediately after use/

6. Always wear surgical gloves or exam gloves when cleaning.

7. When should a puncture-proof container be emptied?

8. If blood is spilled on the wall, how do you clean it?

9. How can you prevent cross-contamination when you dry your hands?

10. For how long should you wash your hands with soap and water before or after a delivery?

11. Using a brush to wash your hands will decrease the risk of infection.

12. Killing germs:
   a. What percentage of germs is killed by washing your hands with soap and water, and then rinsing?
   b. What percentage of germs is killed by washing with your hands with plain water?

* Adapted from “grab bag” questions developed by Annie Clark, CNM/ACNM.
GRAB BAG QUESTIONS: INFECTION PREVENTION—ANSWER KEY

1. Immediately after a delivery, wash gloved hands in the labor room sink.
   False, should wash in 0.5% chlorine solution.

2. Clean labor bed with warm soapy water immediately after delivery.
   False, should be with 0.5% chlorine solution.

3. How should you clean up a blood spill on the floor?
   (Answer: Wear gloves and Use rag with 0.5% chlorine.)

4. What should you wear for infection prevention when handling a baby after delivery before the baby has been bathed? (Answer: Apron and gloves.)

5. The best way to prevent needlestick injuries is to recap the needle immediately after use.
   False, Do not recap, bend, break or disassemble needles before disposal.

6. Always wear surgical gloves or exam gloves when cleaning.
   False, always wear utility gloves when cleaning.

7. When should a puncture-proof container be emptied?
   (Answer: Do not empty, but destroy when two-thirds full.)

8. If blood is spilled on the wall, how do you clean it?
   (Answer: Wear gloves and use rag with 0.5% chlorine.)

9. How can you prevent cross-contamination when you dry your hands?
   (Answer: Use a clean paper or individual towel.)

10. For how long should you wash your hands with soap and water before or after a delivery?
    (Answer: 10–15 seconds.)

11. Using a brush to wash your hands will decrease the risk of infection.
    False, can cause micro-lacerations that can form a portal for entry of microbes and cause infection.
12. Killing germs:
   a. What percentage of germs is killed by washing your hands with soap and water, and then rinsing?
   
   b. What percentage of germs is killed by washing with your hands with plain water? 
   (Answer: a. 80%, b. 50%)
KNOWLEDGE ASSESSMENT: INFECTION PREVENTION

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Infection prevention practices:
   a. Need only be used for clients/patients known to have an infectious disease
   b. Should be used for all clients/patients
   c. Decrease the risk of transmitting life-threatening diseases
   d. b) and c)

2. The single most practical procedure for preventing the spread of infection is:
   a. Wearing gloves
   b. Wearing a mask
   c. Handwashing
   d. All of the above

3. Hands should be washed:
   a. Before and after examining a client/patient
   b. After contact with blood, body fluids or soiled instruments, even if gloves are worn
   c. Before and after removing gloves
   d. Upon arriving at and before leaving the workplace
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Alcohols are excellent antiseptics for use on mucous membranes. ______

5. The risk of acquiring HIV through a needlestick injury is greater than the risk of acquiring hepatitis B through a needlestick injury. ______

6. Decontamination of soiled instruments should occur before washing/cleaning the instruments. ______
KNOWLEDGE ASSESSMENT: INFECTION PREVENTION
—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Infection prevention practices:
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Alcohols are excellent antiseptics for use on mucous membranes. FALSE

5. The risk of acquiring HIV through a needlestick injury is greater than the risk of acquiring hepatitis B through a needlestick injury. FALSE

6. Decontamination of soiled instruments should occur before washing/cleaning the instruments. TRUE
Session Objectives

By end of session, participants will be able to:
- Describe disease transmission cycle
- Outline key IP principles
- Discuss appropriate handwashing and antisepsis
- Discuss appropriate gloving and personal protective equipment
- Outline safe handling of sharps
- Discuss proper instrument processing and waste disposal

The Six Components of the Disease Transmission Cycle

1. Agent: Disease-producing microorganisms
2. Reservoir: Place where agent lives, such as in or on humans, animals, plants, soil, air, or water
3. Place of exit: Where agent leaves host
4. Mode of transmission: How agent travels from place to place (or person to person)
5. Place of entry: Where agent enters next host
6. Susceptible host: Person who can become infected

Question ??

- How can we prevent the spread of infection?
How can we prevent the spread of infection?

- Break disease-transmission cycle
- Inhibit or kill infectious agent (applying antiseptic to skin prior to surgery)
- Block agent’s means of getting from infected person to susceptible person (handwashing or using alcohol-based hand rub)
- Ensuring that people, especially healthcare workers, are immune or vaccinated

How can we prevent the spread of infection? (cont.)

- Providing health care workers with proper protective equipment to prevent contact with infectious agents
- Give some examples of ways to break transmission cycle (see notes)

Why is infection prevention important?

- Protects patients/clients—helps provide quality care that is also safe
- Lowers health care costs—prevention is less expensive than treatment
- Prevents infection among health care staff and community
- Limits number and spread of infectious agents that can become antibiotic-resistant

Question ??

- What is the most important infection prevention practice?
Handwashing

- The single most practical procedure for preventing infection: **Handwashing**

  - **When to wash hands:**
    - Before and after examining client
    - After contact with blood, body fluids or soiled instruments, even if gloves are worn
    - Before and after removing gloves
    - Upon arriving at and before leaving workplace

Handwashing: How to Wash Hands

- **Steps:**
  - Use a plain or antiseptic soap.
  - Vigorously rub lathered hands together for 10–15 seconds.
  - Rinse with clean running water from a tap or bucket.
  - Dry hands with a clean towel or air dry them.

Source: Larsen 1995.

Alcohol-Based Handrub

- More effective than handwashing unless hands are visibly soiled
- 2 mL emollient (e.g., glycerin) + 100 mL ethyl or isopropyl alcohol 60–90%
- Use 3 to 5 ml for each application and continue rubbing the solution over the hands until dry.

Antisepsis

- **Antisepsis for mucous membranes:**
  - Ask about allergic reactions
  - Use water-based product (e.g., iodophor or chlorhexidine), as alcohols may burn or irritate mucous membranes

- **Skin preparation for injections:**
  - If skin is clean, antisepsis is not necessary
  - If skin appears dirty, wash with soap and water
  - Before giving injection, dry with clean towel
When to Glove

- When there is reasonable chance of contact with broken skin, mucous membranes, blood, or other body fluids
- When performing invasive procedure
- When handling:
  - Soiled instruments
  - Medical, or contaminated, waste
  - When touching contaminated surfaces

Guidelines for Gloving

- Wear separate pair of gloves for each woman/newborn to prevent spreading infection from client to client
- What kind of gloves do you wear for:
  - Procedures involving contact with broken skin or tissue under skin?
  - Starting IV, drawing blood, or handling blood or body fluid?
  - Cleaning instruments, handling waste and cleaning up blood and body fluids?
  - Never wear gloves that are cracked, peeling or have holes.

Personal Protective Equipment

- Gloves: utility, examination, HLD/sterile
- Eyewear: face shields, goggles, glasses
- Aprons
  - Should be fluid-resistant
  - Should be decontaminated after use
- Protective footwear

What’s wrong with this picture?
Global Statistics on Occupational Exposure

- 3 million health care workers (HCWs) per year report needlestick injuries per year
- 2.5% HIV infections among HCWs are transmitted by needlestick injuries
- 40% of Hepatitis C and Hepatitis B infections among HCWs are transmitted by needlestick injuries (WHO, 2002)

Safe Handling of Sharps

- Never pass sharp instrument from one hand directly to another person’s hand
- After use, decontaminate syringes and needles by flushing three times with chlorine solution
- Immediately dispose of sharps in puncture-proof container
- Which is greatest, the risk of acquiring Hepatitis B or HIV from a needlestick injury?

Safe Handling of Sharps (cont.)

- Do not recap, bend, break, or disassemble needles before disposal
- Always use needle holder when suturing
- Never hold or guide needle with fingers

Instrument Processing

- Decontamination:
  - Should be done immediately after use
  - Makes objects safer to handle
  - How do you make a 0.5% chlorine solution for decontamination?
- Cleaning:
  - Most effective way to reduce number of organisms
  - Removes visible dirt and debris
Instrument Processing (cont.)

- Sterilization:
  - Destroys all microorganisms
  - Includes autoclave, dry heat, chemicals

- High-level disinfection (HLD):
  - Destroys all microorganisms except bacterial endospores
  - Includes boiling, steaming, soaking

- Storage:
  - After processing, must remain dry and clean

What’s wrong with this picture?

Housekeeping

- Each site should follow housekeeping schedule
- Always wear utility gloves when cleaning
- Clean from top to bottom
- Ensure that fresh bucket of disinfectant solution is available at all times
Housekeeping (cont.)

- Immediately clean up spills of blood or body fluids
- After each use, wipe off beds, tables and procedure trolleys using disinfectant solution
- Decontaminate cleaning equipment with chlorine solution

Waste Disposal

- Contaminated waste includes blood and other body fluids, and items that come into contact with them, such as dressings.
- Separate contaminated waste from noncontaminated waste
- Use puncture-proof container for sharps and destroy when two-thirds full

Waste Disposal (cont.)

- Follow these steps to destroy contaminated waste and sharps:
  - Add small amount of kerosene to burn
  - Burn contaminated waste in open area downwind from care site
  - Dispose of waste at least 50 meters away from water sources

Infection Prevention Grab Bag Game

- Pick a question and answer!
Summary

- Everyone (staff and patients) is at risk for infection
- This risk can be reduced through rigorous adherence to IP practices:
  - Handwashing or using alcohol-based handrub
  - Antisepsis
  - Personal protective equipment, including gloving
  - Safe handling of sharps and needles
  - Instrument processing
  - Housekeeping and waste disposal

References

Clark A. Grab bag of questions adapted from grab bag developed by A. Clark/ACNM.

Ganges F. 2006. Infection Prevention, a presentation in Accra, Ghana in Maternal and Newborn Care Technical Update. (April)

# MODULE 7: BEST PRACTICES IN FOCUSED ANTENATAL CARE—SESSION PLAN

## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
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<tbody>
<tr>
<td></td>
<td>Best Practices in Focused Antenatal Care</td>
<td>240 min (4hrs)</td>
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</table>

### SESSION OBJECTIVES

**By the end of this session, participants will be able to:**
- Describe focused antenatal care (FANC)
- Describe basic elements of FANC assessment and care
- Define the elements of effective counseling
- Describe the elements of Birth Preparedness and Complication Readiness
- Calculate estimated date of delivery (EDD)
- Demonstrate the provision of focused antenatal care

### Methods and Activities

#### Illustrated presentation/discussion: Focused antenatal care (30 min)
- Illustrated presentation/discussion: Ask questions and provide answers and discussion throughout presentation. Include:
  - Benefits of FANC
  - Possible problems in ANC
  - Description/definition of FANC
  - Goals of FANC
  - Fallacy of “risk approach”
  - Antenatal clinical decision-making
  - Elements of effective counseling
  - Birth preparedness/complication readiness plan

#### Discussion: Birth preparedness and complication readiness (30 min)
- Divide into groups of four to discuss birth preparedness/complication readiness questions displayed in PowerPoint slide.
- Reassemble and discuss answers in large group.

#### Role Play: Client-provider interaction (20 min); this may follow session on malaria
- Allow volunteers to perform role play while the rest of participants follow with learning guide and determine answers to questions.
- Facilitate group discussion on role play and provider behavior.

#### Exercises in use of pregnancy calculator (60 min)
- Divide participants into groups.
- Give groups examples: On Handout “Exercises for Calculating EDD” of LMP dates.
- Give instructions to participants to provide gestation and EDD.
- Ask one representative of each group to write the answer on the board.
- Determine the group that has the most correct answers at the end of all calculations to receive “prize.”

#### Skills practice: Focused antenatal care (45 min)
- Review Learning Guide on Antenatal Care.
- Have participants divide into groups of two and practice provision of FANC according to Learning Guide.
- Facilitator(s) should rotate among groups to answer questions.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
  - OR
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- ANC equipment for role play
- Local ANC records/cards
- Role play
- Exercises for calculating EDD
- Flip charts or blackboard
- Markers or chalk
- Note paper

* Discussion of BP/CR may occur during another session depending on schedule.
ROLE PLAY: LISTENING TO THE ANTENATAL CLIENT

DIRECTIONS

The facilitator/teacher will select two participants to perform the following roles: health care provider and antenatal client. The two participants taking part in the role play should take a few minutes to prepare for the activity by reading the background information provided below. The remaining participants, who will observe the role play, should also read the background information before the role play begins.

The purpose of the role play is to provide an opportunity for participants to understand the importance of good listening skills when providing antenatal care.

PARTICIPANT ROLES

Health care provider: The health care provider is an experienced midwife who has good listening skills.

Client: Mrs. A. is 19 years old. This is her second pregnancy.

SITUATION

Mrs. A. is 20 weeks’ pregnant and generally healthy. This is her second antenatal visit for this pregnancy. She has not had any pregnancy-related problems so far. Her first pregnancy was uncomplicated. She is not comfortable about being at the clinic because the midwife who provided antenatal care in her first pregnancy did not listen to what she had to say. In addition, the midwife she saw 2 months ago on her first visit for this pregnancy was hurried and did not listen to her. However, her mother-in-law has sent her to the clinic today. The midwife senses the client’s discomfort as she starts taking the interim antenatal history; she decides to use listening skills to make Mrs. A. feel comfortable.

FOCUS OF THE ROLE PLAY

The focus of the role play is the interpersonal interaction between the midwife and the woman, specifically appropriate listening skills.
ROLE PLAY: LISTENING TO THE ANTENATAL CLIENT—
ANSWER KEY

The following answers should be used by the facilitator/teacher to guide discussion after the role play. Although these are “likely” answers, other answers provided by participants during the discussion may be equally acceptable.

1. The midwife should greet Mrs. A. respectfully and with kindness. She should close the door to demonstrate that the discussion will be between the client and herself, ensuring confidentiality. She should then give her full attention to Mrs. A. and avoid giving the impression that she has other work to do or clients to see. Conveying the message that the midwife is available and has time to listen are important characteristics of good listening.

2. The midwife should be nonselective in listening to Mrs. A. (i.e., she should listen to everything Mrs. A. says and not just what she wants to hear). In addition, she should avoid interrupting Mrs. A. These listening behaviors acknowledge clients as people with important things to say.

3. The midwife should acknowledge what Mrs. A. has said (e.g., by repeating it) and should be open and nonjudgmental about it. Seeing things from the client’s perspective encourages understanding and trust between the health care provider and client, and helps ensure that the client will adhere to the midwife’s recommendations and return for continued care.

4. The midwife should sit facing Mrs. A., leaning slightly forward to show interest. She should maintain eye contact and appear relaxed and comfortable with the interaction. These nonverbal or attending behaviors convey to the client the midwife’s readiness to and interest in listening to her.
EXERCISE: CALCULATING THE ESTIMATED DATE OF CHILDBIRTH

PURPOSE

The purpose of this exercise is to enable participants to practice calculating the estimated date of childbirth (EDC).

INSTRUCTIONS

The exercise can be done in small groups or individually:

- The facilitator/teacher should review the method for calculating the EDC with participants.
- Participants should answer Questions 1 through 5.
- The facilitator/teacher should distribute pregnancy calculators (gestational wheels) to participants and demonstrate how to use them.
- Participants should answer Questions 1 through 5 again, this time using pregnancy calculators. They should then compare the results with their original calculations.
- If pregnancy calculators are not available, the facilitator/teacher should review participants’ original calculations for accuracy.

RESOURCES

- Calendars
- Pregnancy calculators (gestational wheels)
- Guidelines for calculating the EDC

GUIDELINES FOR CALCULATING EDC

The following methods may be used to calculate EDC:

- Gestational age calendar, such as the pregnancy wheel
- Calendar method, based on the following formula:
  - The date of the first day of the LMP + 7 days – 3 months = EDC
  - For example: 9 May + 7 days – 3 months = 16 February
- Moon method (if her periods are usually one month, or four weeks, apart): If a woman’s last period starts on a full moon, her baby is due 10 full moons later. If her last period starts on a new moon, her baby is due 10 new moons later.
- Some prefer adding 9 months plus 7 days, but this is more cumbersome and may not be as accurate.
- Signs: Breast changes (4–8 weeks); Nausea (4–6 weeks); Awareness of baby’s movement (16–18 weeks for multigravida and 18–20 weeks for primigravida); Baby’s heartbeat heard (20 weeks by stethoscope, 11–12 weeks by Doptone, 22–24 weeks by Pinard).

Questions 1 through 6 (next page)

Answer Key to Questions 1 through 6 (Facilitator’s Notebook)
CALCULATING THE EDC

1. **Due Date—Calendar Method**
   - Add 7 days to the date of the first day of the last normal menstrual period.
   - Subtract 3 months.

2. **Gestation and Due Date—Gestation Wheel Method**
   - Calculate on the gestation/pregnancy wheel (if available).

QUESTIONS (STATE MONTH AND DATE)

1. Mrs. A. comes to the antenatal clinic on 3 January. She tells you that her last normal menstrual period started on 10 October. How many weeks pregnant is she? What is her EDC?

2. Mrs. B. comes to the antenatal clinic on 15 May. She tells you that her last normal menstrual period started on 6 March. How many weeks pregnant is she? What is her EDC?

3. Mrs. C. comes to the antenatal clinic on July 11. She tells you that her last normal menstrual period started on 6 March. How many weeks pregnant is she? What is her EDC?

4. Mrs. D. comes to the antenatal clinic on 15 May. She tells you that her last normal menstrual period started on 1 January. How many weeks pregnant is she? What is her EDC?

5. Mrs. E. comes to the antenatal clinic for first visit on 20 April. She tells you that her last normal menstrual period started on 10 November. How many weeks pregnant is she? What is her EDC?

6. Mrs. F. comes to the antenatal clinic for the first time today, 14 June. This is her first pregnancy. She does not have regular menses and does not remember when she had her last menses. She does remember that she felt some breast changes and nausea at the beginning of March and the baby began moving yesterday. On examination you measure her uterus at 1 cm below the umbilicus and you hear the fetal heart at 156 beats/min. Approximately how many weeks pregnant is she and when will her date of delivery be?
EXERCISE: CALCULATING THE ESTIMATED DATE OF CHILDBIRTH—
ANSWER KEY

1. Mrs. A. comes to the antenatal clinic on 3 January. She tells you that her last normal menstrual period started on 10 October. What is her EDC?
   *Her gestational age is 12 weeks. Her EDC is July 16 by wheel and July 17 of the following year* (Oct 10 + 7 minus 3 months = July 17).

2. Mrs. B. comes to the antenatal clinic on 15 May. She tells you that her last normal menstrual period started on 6 March. What is her EDC?
   *Her gestational age is 10 weeks and her EDC is December 12 by wheel and December 13 by calculation of same year* (March 6 + 7 = March 13 minus 3 months = Dec 13).

3. Mrs. C. comes to the antenatal clinic on July 11. She tells you that her last normal menstrual period started on 6 March. What is her EDC?
   *Her gestational age is 18 weeks. Her EDC is December 12 by wheel and December 13 by calculation of same year* (March 6 + 7 = March 13 minus 3 months = Dec 13).

4. Mrs. D. comes to the antenatal clinic on 15 May. She tells you that her last normal menstrual period started on 1 January. What is her EDC?
   *Gestational age is approximately 19 weeks. Her EDC is October 9 by wheel and October 8 (calculation) of the same year* (Jan 1 + 7 = Jan 8 minus 3 months = Oct. 8).

5. Mrs. E. comes to the antenatal clinic for first visit on 20 April. She tells you that her last normal menstrual period started on 10 November. What is her gestation? What is her EDC?
   *Gestational age = 23 weeks Due date is August 16 by wheel and August 17 by calculation* (Nov. 10 + 7 = Nov 17 minus 3 months = Aug. 17).

6. Mrs. F. comes to the antenatal clinic for the first time today, 14 June. This is her first pregnancy. She does not have regular menses and does not remember when she had her last menses. She does remember that she felt some breast changes and nausea at the beginning of March and the baby began moving yesterday. On examination you measure her uterus at 1 cm below the umbilicus and you hear the fetal heart at 156 beats/min. Approximately what is her gestational age and when will be her date of delivery? *Her gestational age is approximately 20 weeks. Her due date is approximately 3 November.*
SKILLS PRACTICE SESSION: FOCUSED ANTENATAL CARE

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice those skills necessary to provide antenatal care, and to achieve competency in these skills. | This activity should be conducted in a simulated setting. | • Childbirth model  
• Stethoscope  
• Syphgmomanometer  
• Simulated tablets (SP)  
• Table for client or model  
• Sheets for draping  
• 0.5% chlorine solution and receptacle for decontamination  
• Leak-proof container or plastic bag |
| Learners should review Learning Guide for Antenatal Care before beginning the activity.  
The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. Under the guidance of the facilitator/teacher, learners should then work in groups of three and practice the steps/tasks in the Learning Guide for Antenatal Care and observe each other’s performance; while one learner simulates her role as a pregnant client, another learner performs the skill, and the third learner should use the Learning Guide to observe performance. Learners should then rotate roles. | Learning Guide for Antenatal Care  
Learning Guide for Antenatal Care | Checklist for Antenatal Care |
| Learners should be able to perform the steps/tasks before skills competency is assessed using the Checklist for Antenatal Care. | | |

1 Content of Malaria and Other Causes of Fever in Pregnancy, as well as PMTCT content, should be incorporated into this skills practice session.
LEARNING GUIDE: ANTENATAL HISTORY, PHYSICAL EXAMINATION AND BASIC CARE
(To be used by Participants)

Place a “✓” in case box if task/activity is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory**: Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed**: Step, task or skill not performed by participant during evaluation by trainer

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| LEARNING GUIDE FOR ANTENATAL HISTORY, PHYSICAL EXAMINATION AND BASIC CARE |
|-----------------------------|-----------------------------|
| **STEP/TASK**               | **CASES**                   |

### GETTING READY

1. Prepare the necessary equipment.
2. Greet the woman respectfully and with kindness and introduce yourself.
3. Offer the woman a seat.
4. Tell the woman what is going to be done, encourage her to ask questions and respond supportively.
5. Provide reassurance and emotional support as needed.

### QUICK CHECK

1. Do rapid check for danger signs, conditions needing emergency treatment.

### HISTORY

1. Ask the woman how she is feeling and respond immediately to any urgent problem(s).
2. Ask the woman her name, age, number of previous pregnancies and number of children, and about any problems she has experienced during this pregnancy.
3. Ask the woman about her menstrual history, including LNMP, her contraceptive history and plans.
4. Calculate the EDD and gestational age.
5. Ask the woman if she has felt fetal movements within the last day.
6. Ask the woman about daily habits and lifestyle (e.g., social support, workload, dietary intake, use of alcohol, drugs, or smoking, and whether she has experienced threats, violence, or injury).
7. Ask the woman about previous pregnancies and breastfeeding history.
8. Ask the woman about medical conditions, medications and hospitalizations.
9. Ask the woman if she has experienced any problems or seen another care provider since her last visit.
10. Ask the woman about HIV status.
11. Ask the woman about tetanus immunization.
<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
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<tbody>
<tr>
<td>12. Ask the woman if she has taken the prescribed treatment to prevent malaria, and whether she is using treated bed nets at all times.</td>
<td></td>
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<tr>
<td>13. Ask the woman about other problems or concerns related to her pregnancy.</td>
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</tr>
<tr>
<td>14. Record all pertinent information on the woman’s record/antenatal card.</td>
<td></td>
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</table>

**PHYSICAL EXAMINATION**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ask the woman to empty her bladder and save and test the urine.</td>
<td></td>
</tr>
<tr>
<td>2. Observe the woman’s general appearance, including gait, skin and conjunctiva for pallor.</td>
<td></td>
</tr>
<tr>
<td>3. Help the woman onto the examination table and place a pillow (if available) under her head and upper shoulders.</td>
<td></td>
</tr>
<tr>
<td>4. Wash hands thoroughly with soap and water and dry them.</td>
<td></td>
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<tr>
<td>5. Explain each step of the physical examination to the woman.</td>
<td></td>
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<tr>
<td>6. Take the woman’s blood pressure.</td>
<td></td>
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<tr>
<td>7. Examine the breasts.</td>
<td></td>
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<tr>
<td>9. Palpate to determine lie and presentation (after 36 weeks).</td>
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<tr>
<td>10. Listen to the fetal heart (second and third trimesters).</td>
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</tr>
<tr>
<td>11. Put examination gloves on both hands.</td>
<td></td>
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<tr>
<td>12. Check external genitalia for sores and/or swelling.</td>
<td></td>
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<tr>
<td>13. Check the vaginal orifice for bleeding and/or abnormal discharge.</td>
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<tr>
<td>14. Check for signs of female genital mutilation (country/population specific).</td>
<td></td>
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<tr>
<td>15. Immerse both gloved hands in 0.5% chlorine solution: • Remove gloves by turning them inside out. • If disposing of gloves, place in leak-proof container, or if reusing gloves, submerge in 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>16. Wash hands thoroughly with soap and water and dry.</td>
<td></td>
</tr>
<tr>
<td>17. Record all relevant findings on the woman’s antenatal card.</td>
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</tbody>
</table>

**SCREENING PROCEDURES**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Put examination gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>2. Draw blood and do hemoglobin, RPR and HIV tests, interpreting results accurately.</td>
<td></td>
</tr>
<tr>
<td>3. Empty and soak the test tubes in 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>4. Dispose of needle and syringe in puncture-proof container.</td>
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</tr>
<tr>
<td>5. Immerse both gloved hands in 0.5% chlorine solution: • Remove gloves by turning them inside out. • Dispose off gloves in leak-proof container or plastic bag.</td>
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<tr>
<td>6. Wash hands thoroughly with soap and water and dry.</td>
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<tr>
<td>7. Record results on the woman’s antenatal card and discuss them with her.</td>
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<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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</tr>
<tr>
<td><strong>IDENTIFY PROBLEMS/NEEDS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Identify the woman’s individual problems/needs, based on the findings of the antenatal history, physical examination and screening procedures.</td>
<td></td>
</tr>
<tr>
<td><strong>PROVIDE CARE/TAKE ACTION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Treat the woman for syphilis if the RPR test is positive, provide counseling on HIV testing and safer sex, and arrange for her partner to be treated and counseled.</td>
<td></td>
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<tr>
<td>2. Provide tetanus immunization based on need.</td>
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<tr>
<td>3. Provide counseling about necessary topics such as nutrition, hygiene, use of potentially harmful substances, rest/activity, sexual relations/safer sex, breastfeeding and postpartum family planning.</td>
<td></td>
</tr>
<tr>
<td>4. Provide counseling about the use of insecticide-treated bed nets.</td>
<td></td>
</tr>
<tr>
<td>5. Dispense medication for IPT for malaria according to protocol.</td>
<td></td>
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<tr>
<td>6. Dispense other necessary medications such as iron and folate.</td>
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<tr>
<td>7. Develop or review individualized birth plan with the woman; develop or review her complication readiness plan.</td>
<td></td>
</tr>
<tr>
<td>8. Discuss danger signs and what to do if they occur.</td>
<td></td>
</tr>
<tr>
<td>9. Record the relevant details of care on the woman’s record/antenatal card.</td>
<td></td>
</tr>
<tr>
<td>10. Ask the woman if she has any further questions or concerns.</td>
<td></td>
</tr>
<tr>
<td>11. Thank the woman for coming and tell her when she should come for her next antenatal visit.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: ANTENATAL HISTORY, PHYSICAL EXAMINATION AND BASIC CARE
(To be used by the Facilitator/Teacher at the end of the module)

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Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step, task or skill not performed by participant during evaluation by trainer

**Learner ___________________________ Date Observed ____________________**

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<tr>
<td><strong>GETTING READY</strong></td>
</tr>
<tr>
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<tr>
<td>3. Offer the woman a seat.</td>
</tr>
<tr>
<td>4. Tell the woman what is going to be done, listen to her and encourage her to ask questions.</td>
</tr>
<tr>
<td><strong>HISTORY</strong></td>
</tr>
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<td>4. Ask woman whether she has felt fetal movements within the last day.</td>
</tr>
<tr>
<td>5. Ask woman about daily habits, lifestyle and social support.</td>
</tr>
<tr>
<td>6. Ask the woman about past pregnancies and breastfeeding.</td>
</tr>
<tr>
<td>7. Ask the woman about medical conditions, including HIV status, medications and hospitalizations.</td>
</tr>
<tr>
<td>8. Ask the woman about tetanus immunization.</td>
</tr>
<tr>
<td>9. Ask the woman if she has taken the prescribed treatment to prevent malaria, and whether she is using treated bed nets at all times.</td>
</tr>
<tr>
<td>10. Ask the woman about other problems or concerns related to her pregnancy.</td>
</tr>
<tr>
<td>11. Record all pertinent information on the woman’s record/antenatal card.</td>
</tr>
<tr>
<td><strong>PHYSICAL EXAMINATION</strong></td>
</tr>
<tr>
<td>1. Ask the woman to empty her bladder and save and test the urine.</td>
</tr>
<tr>
<td>2. Observe the woman’s general appearance.</td>
</tr>
</tbody>
</table>
### CHECKLIST FOR ANTENATAL HISTORY, PHYSICAL EXAMINATION AND BASIC CARE

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Help the woman on to the examination table and place a pillow under her head and upper shoulders.</td>
<td></td>
</tr>
<tr>
<td>4. Wash hands thoroughly with soap and water and dry them.</td>
<td></td>
</tr>
<tr>
<td>5. Explain each step of the physical examination to the woman.</td>
<td></td>
</tr>
<tr>
<td>6. Take the woman’s blood pressure.</td>
<td></td>
</tr>
<tr>
<td>7. Examine the breasts.</td>
<td></td>
</tr>
<tr>
<td>8. Examine abdomen and determine lie and presentation (after 36 weeks).</td>
<td></td>
</tr>
<tr>
<td>10. Listen to the fetal heart (second and third trimesters).</td>
<td></td>
</tr>
<tr>
<td>11. Put examination gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>12. Check external genitalia and vaginal orifice.</td>
<td></td>
</tr>
<tr>
<td>13. Immerse both gloved hands in 0.5% chlorine solution and remove gloves.</td>
<td></td>
</tr>
<tr>
<td>14. Wash hands thoroughly with soap and water and dry.</td>
<td></td>
</tr>
<tr>
<td>15. Record all relevant findings on the woman’s antenatal card.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### SCREENING PROCEDURES

| 1. Put examination gloves on both hands.                             |       |
| 2. Draw blood and do hemoglobin, RPR and HIV tests, interpreting results accurately. |       |
| 3. Empty and soak the test tubes in 0.5% chlorine solution for 10 minutes. |       |
| 4. Dispose off needle and syringe in puncture-proof container.       |       |
| 5. Immerse both gloved hands in 0.5% chlorine solution and remove gloves. |       |
| 6. Wash hands thoroughly with soap and water and dry.               |       |
| 7. Record results on the woman’s antenatal card and discuss them with her. |       |

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### IDENTIFY PROBLEMS/NEEDS

| 1. Identify the woman’s individual problems/needs, based on the findings of the antenatal history, physical examination and screening procedures. |       |

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### PROVIDE CARE/TAKE ACTION

| 1. Treat the woman for syphilis if the RPR test is positive, provide counseling on HIV testing and safer sex, and arrange for her partner to be treated and counseled. |       |
| 2. Provide tetanus immunization based on need.                        |       |
| 3. Provide counseling about necessary self care topics.               |       |
| 4. Provide counseling about the use of insecticide-treated bed nets. |       |
| 5. Dispense medication for IPT for malaria according to protocol.    |       |
| 6. Dispense other necessary medications such as iron and folate.     |       |
| 7. Develop or review individualized birth plan with the woman; develop or review her complication readiness plan, including danger signs. |       |
### Checklist for Antenatal History, Physical Examination and Basic Care

<table>
<thead>
<tr>
<th>Step/Task</th>
<th>Cases</th>
</tr>
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<tbody>
<tr>
<td>8. Record the relevant details of care on the woman’s record/antenatal card.</td>
<td></td>
</tr>
<tr>
<td>9. Ask the woman if she has any further questions or concerns.</td>
<td></td>
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<tr>
<td>10. Thank the woman for coming and tell her when she should come for her next antenatal visit.</td>
<td></td>
</tr>
</tbody>
</table>

**Skill/activity performed satisfactorily**
KNOWLEDGE ASSESSMENT: ANTENATAL CARE

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Antenatal care actions that may benefit the newborn include:
   a. Syphilis testing and treatment, if positive, of the mother
   b. Malaria prevention
   c. Screening and ARVs for HIV
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Focused antenatal care should ideally:
   a. Be provided by physicians with appropriate skills
   b. Be individualized and woman-centered
   c. Be provided monthly after the fourth month and bi-weekly during the last month
   d. All of the above

3. Birth preparedness and complication readiness include the answers to such questions as:
   a. Where does she plan to deliver her baby?
   b. Who will accompany her in labor to her chosen center and how will she get there?
   c. Does she have money and other needed items ready and accessible?
   d. a) and c)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. An effective way for managing antenatal care is to assign women to either a “high-risk” or “low-risk” category. ____

5. Birth preparedness and complication readiness is only necessary for those women who we anticipate may have a problem. ____
KNOWLEDGE ASSESSMENT: ANTENATAL CARE—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Antenatal care actions that may benefit the newborn include:
   a. Syphilis testing and treatment, if positive, of the mother
   b. Malaria prevention
   c. Screening and ARVs for HIV
   d. a) and b)
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   d. a) and c)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. An effective way for managing antenatal care is to assign women to either a “high-risk” or “low-risk” category.  
   FALSE

5. Birth preparedness and complication readiness is only necessary for those women who we anticipate may have a problem.  
   FALSE
Session Objectives

- Describe focused antenatal care (FANC)
- Describe basic elements of FANC assessment and care
- Describe the elements of Birth Preparedness and Complication Readiness
- Demonstrate the provision of focused antenatal care

Objective of ANC

- A healthy pregnancy
- A healthy outcome for mother and newborn
- Promotion of physical, mental and social health

Benefits of FANC

- ANC visits are a unique opportunity for early diagnosis and treatment of problems:
  - Maternal problems: anemia, vaginal bleeding, pre-eclampsia/eclampsia, infection, abnormal fetal position after 36 weeks
  - Fetal/newborn problems: abnormal fetal growth or movement, HIV, syphilis, malaria, malnutrition
Best Practices in Maternal and Newborn Care
Learning Resource Package

Question ??

- What problems have you seen with antenatal care?
- Why are there problems with antenatal care?

ANC: Why is there a problem?

- Quality of care is poor:
  - We gather information but do not use it to manage patient e.g., anemia
  - Poor clinical management of problems – eclampsia, bleeding in pregnancy
  - Failure to record relevant information

- Not women-friendly:
  - Factory assembly-line ANC system
  - Not client-specific
  - Women treated poorly so do not return

- Poor communication:
  - Poor counseling skills
  - Information and education are not relevant to the woman

A Midwife Says:

“What I dislike about the assembly line system was that I alone had to palpate about 150 pregnant women a day. There was no privacy during history taking and the women did not give us correct information . . . It was tedious work….”

– A care provider
What FOCUSED ANC Means!

An approach to ANC that emphasizes:
- Individualized care
- Client-centered
- Fewer but comprehensive visits
- Disease detection, not risk
- Classification
- Care by a skilled provider

Four Goals of Focused ANC

- Early detection and treatment of problems and complications
- Prevention of complications and disease
- Birth preparedness and complication readiness
- Health promotion

The Focused ANC System

- Privacy/confidentiality are assured
- Continuous care provided by same provider
- Promotes partner/support person involvement
- Adheres to national protocols
- Referral facilitated
- ANC, PNC and family planning services are linked and housed within the same location if possible

“High Risk” Women and “Low Risk” Women

- What are the benefits of assigning women to “risk” categories?
- What are the problems with assigning women to “risk” categories?
Why Risk Approach Is Not Effective!

- Complications cannot be predicted: All pregnant women are at risk
- Risk factors are not usually the direct cause of complications
- Many low-risk women develop complications
- Most high-risk women give birth without complications

Focused ANC Visit Schedule for the Healthy Client

- Four visits:
  - First: <16 Weeks
  - Second: 20–24
  - Third: 28–30
  - Fourth: 36
- It means good clinical decisions must be made at each visit

Making Good Clinical Decisions at ANC

- The steps:
  - Gathering information (history, exam, labs, etc.)
  - Interpreting information gathered
  - Developing a care plan
  - Implementing care plan
  - Evaluating care plan

Gathering Information: History

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Personal Hx</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Present Preg Hx</td>
<td></td>
<td>*</td>
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<td>*</td>
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<tr>
<td>LMP, Complaints</td>
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<tr>
<td>Past preg Hx</td>
<td>*</td>
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<tr>
<td>Medical Hx</td>
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<tr>
<td>Family/Social Hx</td>
<td>*</td>
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Gathering Information: Examination

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<tbody>
<tr>
<td>General</td>
<td>*</td>
<td>*</td>
<td>*</td>
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</tr>
<tr>
<td>Pulse, Resp, BP</td>
<td>*</td>
<td></td>
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</tr>
<tr>
<td>Breast</td>
<td>*</td>
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<td></td>
</tr>
<tr>
<td>Chest</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdomen/Preg</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Genital</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelvic Assess</td>
<td>PRN only</td>
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</table>

Gathering Information: Lab/Other Investigations, e.g., US

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<th>1</th>
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<tbody>
<tr>
<td>Blood</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hgb, RPR, HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urine - according to local protocols</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albumin, Sugar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ultrasound</td>
<td>(PRN, NOT routine in FANC)</td>
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</tbody>
</table>

Care Plan: Appropriate Counseling and LEC

- Relevant to client needs
- Relevant to gestation
- Address discomforts of pregnancy
Basic Care Plan

- Minimum of four visits for the healthy client
- Anemia prevention
- Malaria prevention
- Prevention of HIV transmission
- Treatment/prevention other STIs
- Tetanus immunization
- Preparing birth and complication preparedness plan
- Education and counsel – nutrition, family planning, infant feeding, hygiene

Care Plan: Anemia Prevention

- Iron supplementation
- Folate supplementation
- Treat any factors that can cause anemia: worms, malaria, schisto, etc.
- Nutrition – foods rich in iron, folate and vitamin C

Question ??

Why bother with a birth preparedness and complication readiness plan?

Why Bother?

- Time of labor or time of emergency is not the time to decide what to do
- Increase the likelihood of using a skilled attendant as arrangements have been made
- Frequently women/families do not seek help because they do not know they have a problem – don’t know danger signs
- Some complications, e.g., hemorrhage, take only 2 hours until death – all plans must be in place
Question ??

- What are the elements of a birth preparedness and complication readiness plan?

The Birth Preparedness and Complication (BP/CR) Readiness Plan

- Facility or place of birth
- Skilled provider
- Transportation
- Funds
- Support person
- Decision-maker
- Blood donor
- Danger signs in labor

Birth Preparedness and Complication Readiness Plan (cont.)

- Where does she plan to deliver her baby?
- Who will accompany her in labor to her chosen center?
- How will she get to the health center?
- Does she have money and other needed items ready and accessible?

Birth Preparedness and Complication Readiness Plan (cont.)

- If she develops a complication before or during labor, how will she reach the nearest health facility?
- Where will she find money for any additional cost e.g., CS?
- If she needs blood, who will donate?
THANK YOU FOR YOUR ATTENTION

References

Deganus S. 2004. Improving quality of antenatal care at a district hospital in Ghana, a presentation in Accra, Ghana. (29 July)

Optional Slides

Ghana: The Tema General Hospital Experience

Change at Tema General Hospital

- Antenatal Care:
  - Increased attendance
  - Booking earlier in pregnancy
  - Average client waiting time reduced by 1 hr 40 mins
  - Individualized care: Education and counseling more tuned to client needs
  - All care components by the same provider
  - Improved client-provider interaction
  - Same provider provides continuing care to the client at all visits
Antenatal Attendance: 1999–2003

- Labor and delivery:
  - Increased use of hospital delivery facilities (skilled attendant)
  - Decreased stillbirth rate
- Postnatal care:
  - Enhanced use of postnatal care services

Antenatal Booking and Skilled Attendance at Delivery: 1997–2003

Stillbirths and MMR: 1997–2003
Antenatal Care Bookings and Six-Week Postnatal Care Attendance: 1997–2003

Other Benefits of This Change

- Improved staff morale
- Improved provider skill levels
- More client-friendly facilities
- Better use of staff skills
- Improved status of hospital as
- Clinic is recognized as center of excellence
- Center serves as a site for introducing new ANC country programs e.g., PMTCT
- Commitment by care providers to continued quality improvement

"Since I started practicing individualized AN care, work has become very interesting. I know my clients better, they share their problems with me because of the privacy provided. Clients feel relaxed and at ease with me.

I feel more concerned and also more obliged to address their health needs. My clients seem to appreciate more the care I give to them and sometimes shower me with thank-you cards and gifts. This makes me feel great...."

—ANC Care Provider

"There is still more room for improvement. There is still a lot to be learnt. We have a vision and we are working towards it."

—"Matron in Charge"
### Module 8: Best Practices in Prevention and Management of Malaria and Other Causes of Fever in Pregnancy—Session Plan

#### Maternal and Newborn Care: Technical Update

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Time</th>
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<tbody>
<tr>
<td></td>
<td>Best Practices in Prevention and Management of Malaria and Other Causes of Fever in Pregnancy</td>
<td>45 min</td>
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</table>

#### Session Objectives

**By the end of this session, participants will be able to:**

- Describe the effect of malaria on pregnant women and their newborns
- Discuss considerations in the transmission of malaria
- Describe the four main strategies to address malaria in pregnancy
- Define the main health education points for pregnant women living in malarious areas

#### Methods and Activities | Materials/Resources

- **Illustrated presentation/discussion:** Best practices in prevention and management of malaria and other causes of fever in pregnancy (45 min)
- Use questioning of group to draw out knowledge and experience of participants. (Suggested questions provided in PowerPoint presentation.)
- Discuss issues that arise during presentation and questioning.
- Be sure to include:
  - Basic facts of malaria epidemiology
  - Significance of malaria in pregnancy
  - Effects of malaria on mother and baby:
    - In stable areas of transmission
    - In unstable areas of transmission
  - Malaria transmission
  - HIV and malaria in pregnancy
  - Counseling of a pregnant woman in a malarious area
  - Intermittent preventive treatment
  - Insecticide-treated nets
  - SP resistance
  - Differentiation of uncomplicated and complicated malaria
  - Management of simple/uncomplicated malaria
  - Management of complicated malaria

#### Incorporate content into focused antenatal care practice:

- **Case Study** – Since this case study is long, you may prefer to use it to facilitate a discussion during the ANC clinical practice session.

- **Boxlight projector**
- **PowerPoint presentation**
- **Overhead projector with transparencies (Handouts of presentations if no electricity)**
- **Case Study**
CASE STUDY: ANTENATAL ASSESSMENT AND CARE

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. B., a 26-year-old gravida 3/para 2, presents for her first antenatal clinic visit. Her children are 18 months and 8 months of age. Both are well. She and her family live in a rural village that is in a malaria-endemic area. You note that Mrs. B. looks pale and tired.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. B.?

ASSESSMENT
(Information gathering through history, physical examination and testing)

2. What history will you include in your assessment of Mrs. B., and why?
3. What physical examination will you include in your assessment of Mrs. B., and why?
4. What laboratory tests will you include in your assessment of Mrs. B., and why?

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

History:
- According to Mrs. B.’s menstrual history, she is 28 weeks pregnant.
- She admits to feeling weak, tired and dizzy.
- She reports that she has been treated for malaria twice in the past 12 months; the most recent episode was 4 months ago, during which she was treated with antimalarial drugs. She denies any symptoms of malaria now.
- She reports that she had no signs or symptoms of anemia during her previous pregnancies.
- She is not taking any medication at present.
- She and her family have an adequate food supply at present, but Mrs. B.’s appetite has been poor lately.
- Mrs. B.’s mother-in-law provides some help with childcare and housework.
- All other aspects of her history are normal or without significance.
Physical examination:
- Mrs. B. has mild conjunctival pallor.
- All other aspects of her physical examination are within normal range.
- Her blood pressure is 100/68, and her temperature is 37.6°C. (Although temperature is not a routine part of antenatal care, because she comes from a malarious area, this is part of the assessment.)
- Her breast exam is normal.
- Mrs. B.’s fundal height measurement is 28 weeks, consistent with the EDC.
- Fetal heart rate is 136 beats/minute and regular.
- The genital exam is normal.

Testing:
- Hemoglobin is 9 g/dL.
- Other test results: RPR – non-reactive; HIV – negative; blood type - O, Rh-positive.

5. Based on these findings, what is Mrs. B.'s diagnosis (problem/need), and why?

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. B., and why?

EVALUATION

Mrs. B. comes back to the antenatal clinic on the appointed date, and on assessment your findings are as follows:
- She has taken her iron/folate tablets as directed, even though she has had mild constipation.
- She has been able to rest more because her mother-in-law has provided more help than usual. She also reports that her appetite has improved.
- She appears less tired and is not as pale, generally, as she was at her first antenatal visit. She says that she “feels much better.”
- On physical examination, you find that she still has mild conjunctival pallor.
- She does not have a fever.
- The fetal heart rate is normal, and Mrs. B. says that the fetus is active.
- Mrs. B.’s hemoglobin is now 10 g/dL. It was also measured at the last visit.

7. Based on these findings, what is your continuing plan of care for Mrs. B.?
CASE STUDY: ANTENATAL ASSESSMENT AND CARE (ANEMIA)—
ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished
reading it, answer the case study questions. Consider the steps in clinical decision-making as you
answer the questions. The other groups in the room are working on the same or a similar case
study. When all groups have finished, we will discuss the case studies and the answers each
group developed.

CLIENT PROFILE

Mrs. B., a 26-year-old gravida 3/para 2, presents for her first antenatal clinic visit. Her children
are 18 months and 8 months of age. Both are well. She and her family live in a rural village that
is in a malaria-endemic area. You note that Mrs. B. looks pale and tired.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. B.?
   ● Mrs. B. should be greeted respectfully and with kindness and offered a seat to help her feel
     comfortable and welcome, establish rapport and build trust. A good relationship helps to
     ensure that the client will adhere to the care plan and return for continued care.
   ● You should confirm (through written records and/or verbal communication) with the clinic
     staff member who received Mrs. B. when she first arrived at the clinic that she has undergone
     a Quick Check. If she has not, you should conduct a Quick Check now to detect
     signs/symptoms of life-threatening complications that need immediate/emergency care.

ASSESSMENT

(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. B., and why?
   ● Because this is her first visit, you should take a complete history (including calculating the
     EDC) to guide further assessment and help individualize care provision. Some responses may
     point toward the underlying reason for her pale/tired appearance, or may indicate a special
     need or life-threatening complication that requires special care and/or immediate attention.
   ● Ask Mrs. B. if she is experiencing weakness, tiredness, dizziness, breathlessness or fainting
     to help determine severity of anemia; ask about fever, chills/rigor, headache or muscle/joint
     ache to ascertain whether she may currently have malaria.
   ● When asking about contraceptive history/plans: Because Mrs. B. has had three pregnancies in
     3 years, it will be important to determine whether she has ever used a modern method of
     contraception and what her perceptions are about doing so in the future. Pregnancies that are
     closer together than 3 years increase the risk of maternal and newborn complications.
   ● When asking about medical history and obstetric history:
It will be important to know whether Mrs. B. has been treated for anemia and/or malaria, during or since her last pregnancy and, if so, how her condition was treated. Living in a malaria-endemic area and/or episodes of malaria in pregnancy may lead to anemia (even uncomplicated malaria can lead to anemia), and while the malaria may have been treated, the associated anemia may not have been.

It will also be important to determine whether Mrs. B. was anemic during her previous pregnancies and, if so, how her condition was managed. If she does not know whether she was anemic during her previous pregnancies, she should be asked whether she had symptoms of anemia (e.g., tiredness, breathlessness).

Ask whether she had fever/infection during previous pregnancies/childbirths or postpartum hemorrhage, and whether her previous babies were preterm or of low birth weight, as these factors can also be associated with anemia in pregnancy.

When asking about medications, it will be important to know whether Mrs. B. is taking iron tablets and, if so, how often and for how long she has been taking them. Pregnant women require increased iron intake to prevent anemia and for their bodies to use in forming fetal red blood cells. If she has been taking an adequate dose of iron supplementation, it is less likely that her anemia is caused by dietary deficiency. In addition, because Mrs. B. lives in a malaria-endemic area, it will be important to ask whether she is taking IPT.

When asking about daily habits and lifestyle: Mrs. B should be asked about her social situation, in particular to determine whether she has anyone to help with child care, cooking, cleaning, etc., and whether she has access to nutritious foods, especially those rich in iron. A poor diet, especially one that lacks iron-rich foods, could lead to anemia, and a heavy workload could increase an already high level of fatigue.

3. What physical examination will you include in your assessment of Mrs. B., and why?

- Because this is her first visit, you should perform a complete physical examination (i.e., wellbeing, blood pressure, conjunctiva, breasts, abdomen [fundal height, lie and presentation after 36 weeks, fetal heart rate after 20 weeks], and genital examination) to guide further assessment and help individualize care provision. Some findings may point toward the underlying reason for her pale/tired appearance, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

- Mrs. B. should be checked carefully for conjunctival pallor, abnormal respiratory rate, rapid pulse, and breathlessness. Conjunctival pallor is a sign of anemia. When it is accompanied by a respiratory rate of 30 or more or breathlessness at rest, severe anemia should be suspected.

- Mrs. B. should be checked for fever, which might indicate current malaria infection.

- It will also be important to determine whether fetal growth is consistent with EDC, because anemia in pregnancy is associated with low birth weight.

4. What laboratory tests will you include in your assessment of Mrs. B., and why?

- Because this is her first visit, you should conduct all routine laboratory tests if available (i.e., RPR for syphilis, HIV [if she does not “opt out”), Rh factor and blood group, hemoglobin, and tests for other conditions if applicable to guide further assessment and help individualize care provision. Some findings may point toward the underlying reason for her pale/tired
appearance, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

**DIAGNOSIS**  
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. B., and your main findings include the following:

**History:**
- According to Mrs. B.’s menstrual history, she is 28 weeks pregnant.
- She admits to feeling weak, tired and dizzy.
- She reports that she has been treated for malaria twice in the past 12 months; the most recent episode was 4 months ago, during which she was treated with antimalarial drugs. She denies any symptoms of malaria now.
- She reports that she had no signs or symptoms of anemia during her previous pregnancies.
- She is not taking any medication at present.
- She and her family have an adequate food supply at present, but Mrs. B.’s appetite has been poor lately.
- Mrs. B.’s mother-in-law provides some help with childcare and housework.
- All other aspects of her history are normal or without significance.

**Physical examination:**
- Mrs. B has mild conjunctival pallor.
- All other aspects of her physical examination are within normal range:
  - Her blood pressure is 100/68, and her temperature is 37.6°C. (Although temperature is not a routine part of antenatal care, because she comes from a malarious area, this is part of the assessment.)
  - Her breast exam is normal.
  - Mrs. B.’s fundal height measurement is 28 weeks, consistent with the EDC.
  - Fetal heart rate is 136 beats/minute and regular.
  - The genital exam is normal.

**Testing:**
- Hemoglobin is 9 g/dL.
- Other test results: RPR – non-reactive; HIV – negative; blood type - O, Rh-positive.

5. Based on these findings, what is Mrs. B.’s diagnosis (problem/need), and why?

- Mrs. B, has a “special need”: She has signs/symptoms consistent with mild to moderate anemia.
Hemoglobin test confirms that Mrs. B. has mild/moderate anemia. Mrs. B.’s anemia is likely to be associated with the episode of malaria she had earlier in her pregnancy. Women who live in malaria-endemic areas or who have malaria during pregnancy are particularly prone to anemia; however, Mrs. B. was not started on iron at the time of her most recent episode of malaria. Mrs. B.’s anemia is not likely chronic because she reports that she has an adequate food supply and that she was not anemic during her previous pregnancies. The fetus appears to be growing at a rate consistent with EDC. Otherwise, Mrs. B. is healthy and her pregnancy is progressing normally.

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. B., and why?

- Mrs. B. should receive basic care provision (i.e., nutritional support, birth planning, HIV counseling, additional health messages and counseling on self-care and other healthy behaviors [e.g., hygiene/prevention of infection, sexual relations and safer sex, rest and activity, use of potentially harmful substances], immunizations and other preventive measures), which will help support and maintain her normal pregnancy, and ensure a healthy labor/childbirth and postpartum/newborn period.

- Iron/folate supplementation and related counseling are especially important:
  - Mrs. B. should be given iron/folate, 1 tablet 2 times daily. Taking iron/folate on a regular basis for the remainder of her pregnancy (and for three months postpartum) should rectify Mrs. B.’s anemia.
  - She should be advised to take the iron/folate with meals, at the same time each day, or at night, with water or fruit juice. Iron/folate should not be taken with tea, coffee or cola as these interfere with its absorption.
  - Some women experience constipation when taking iron tablets, so side effects such as constipation and nausea should be discussed. Mrs. B. should be encouraged to continue taking the iron/folate if these symptoms occur. Adding more fruits and vegetables to the diet and drinking more water can help avoid constipation.
  - A sufficient supply of iron/folate should be dispensed to last until her next antenatal visit.

- Intermittent preventive treatment (IPT) for malaria should be commenced, in accordance with country/local policy. Mrs. B. should be also counseled about other protective measures, such as sleeping under an insecticide-treated bed net and wearing protective clothing.

- In counseling about rest and activity: It is especially important to encourage Mrs. B. to rest when possible and lighten her workload. Again, a heavy workload and not enough rest could increase an already high level of fatigue.

- In counseling about nutrition: The importance of eating foods that are rich in iron, as well as foods rich in vitamin C (because vitamin C helps iron to be absorbed), should be emphasized. Foods rich in iron include lean meat, liver, dried beans, peas, lentils, egg yolks, fish, nuts and
raisins. Foods rich in Vitamin C include citrus fruits (lemons, limes, oranges and grapefruits), tomatoes, cabbage, potatoes, cassava leaves, peppers and yams. Again, a diet that lacks iron-rich foods could lead to anemia or worsen existing anemia.

- In family planning counseling: Child spacing and family planning methods should be discussed to encourage Mrs. B. to think about child spacing for the future. Evidence shows that outcomes for mothers and babies improve if pregnancies are spaced at least 3 years apart and that the risk of maternal anemia, infection and hemorrhage is decreased.

- In scheduling a return visit: Mrs. B. should be asked to return for a follow-up visit in one month, but told that she can return to the clinic any time before then, if she has any concerns. Because Mrs. B. needs to be monitored closely until her anemia has resolved, the minimum of four ANC visits are not sufficient in her case.

**EVALUATION**

Mrs. B. comes back to the antenatal clinic on the appointed date, and on assessment your findings are as follows:

- She has taken her iron/folate tablets as directed, even though she has had mild constipation.
- She has been able to rest more because her mother-in-law has provided more help than usual. She also reports that her appetite has improved.
- She appears less tired and is not as pale, generally, as she was at her first antenatal visit. She says that she "feels much better."
- On physical examination, you find that she still has mild conjunctival pallor.
- She does not have a fever.
- The fetal heart rate is normal, and Mrs. B says that the fetus is active.
- Mrs. B.’s hemoglobin is now 10 g/dL. It was also measured at the last visit.

**7. Based on these findings, what is your continuing plan of care for Mrs. B.?**

- Mrs. B. should be counseled about continuing to take iron/folate. A sufficient supply of iron/folate tablets should be dispensed to last until her next antenatal visit. She should be encouraged to add more vegetables, fruits and fluids to her diet, to help lessen her constipation.
- She should be encouraged to continue to eat iron-rich and vitamin C-rich foods, and to rest as much as possible.
- Mrs. B. should continue to be monitored closely until her hemoglobin is 11 g/dL; she should be asked to return for a follow-up visit in 2 weeks, but told that she can return to the clinic any time before then, if she has danger signs, cannot comply with instructions, or has any concerns.
- Mrs. B. should continue to receive IPT based on country policy.
- Mrs. B. should be reminded always to sleep under an ITN.
- When Mrs. B.’s hemoglobin reaches 11 g/dL, providing there are no other danger signs or concerns, she can resume the normal schedule of antenatal visits.
KNOWLEDGE ASSESSMENT: PREVENTION AND MANAGEMENT OF MALARIA AND OTHER CAUSES OF FEVER IN PREGNANCY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Malaria affects:
   a. Nearly as many people as TB and HIV combined
   b. Twice as many people as TB, HIV, leprosy and measles combined
   c. Five times as many people as TB, HIV, leprosy and measles combined

2. In malaria-endemic areas, malaria during pregnancy may account for:
   a. Up to 15% of maternal anemia
   b. 5–14% of low birth weight
   c. 30% of “preventable” low birth weight (LBW)
   d. a) and b)
   e. All of the above

3. Malaria prevention and control in pregnancy includes:
   a. Focused antenatal care and health education
   b. Intermittent preventive treatment (IPT)
   c. Insecticide-treated nets (ITNs)
   d. Case management of malaria illness
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Malaria is less severe in women during their first or second pregnancies than it is in subsequent pregnancies. ______

5. In areas of unstable malaria transmission, malaria in pregnancy is often asymptomatic. ______

6. Women who are HIV + have increased resistance to malaria. ______

7. IPT should not be used during the first 16 weeks of pregnancy. ______

8. Quinine is the drug of choice for the treatment of complicated malaria. ______
KNOWLEDGE ASSESSMENT: BEST PRACTICES IN PREVENTION AND MANAGEMENT OF MALARIA AND OTHER CAUSES OF FEVER IN PREGNANCY—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

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   d. Case management of malaria illness
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Malaria is less severe in women during their first or second pregnancies than it is in subsequent pregnancies. FALSE

5. In areas of unstable malaria transmission, malaria in pregnancy is often asymptomatic. FALSE

6. Women who are HIV + have increased resistance to malaria. FALSE

7. IPT should not be used during the first 16 weeks of pregnancy. TRUE

8. Quinine is the drug of choice for the treatment of complicated malaria. TRUE
**Session Objectives**

- Describe the effect of malaria on pregnant women and their newborns
- Discuss considerations in the transmission of malaria
- Describe the four main strategies to address malaria in pregnancy
- Define the main health education points for pregnant women living in malarious areas
- Describe general assessment of a woman with fever during pregnancy

**Malaria Facts**

- 300 million malaria cases each year worldwide
- 9 of 10 cases occur in Africa
- An African dies of malaria every 10 seconds
- Affects 5 times as many as TB, AIDS, measles and leprosy combined

**Significance of Malaria in Pregnancy**

- 30 million African women are pregnant yearly
- Malaria more frequent and severe during pregnancy:
  - Women in 1st or 2nd pregnancy more at risk
Question ??

- What are the effects of malaria on the mother and unborn baby?

Why is malaria important for pregnant women?

- In malaria-endemic areas, malaria during pregnancy may account for:
  - Up to 15% of maternal anemia
  - 5–14% of low birth weight (LBW)
  - 30% of “preventable” low birth weight

Malaria Transmission

- Caused by *Plasmodium Falciparum* parasites
- Spread through female Anopheles mosquitoes, which bite mainly at night
- Infected mosquito bites a human
- Malaria parasites reproduce in human bloodstream
- Mosquito bites an infected person, and then goes on to bite and infect another person

Effect of Malaria

The effect of malaria on the pregnant woman can range from mild to severe, depending on her immunity. Level of immunity depends on:

- Intensity of malaria transmission – stable to unstable areas
- Number of previous pregnancies (women with first pregnancy has less immunity than woman having more than two pregnancies)
- Presence of other conditions, such as HIV, which can lower immune response
Effect of Malaria on Pregnancy: Stable Transmission Areas

- *Plasmodium Falciparum* malaria
  - Asymptomatic Infection
  - Altered Placental Integrity
  - Placenta Attacked by Parasites
  - Reduced Nutrient & Oxygen Transport

- Anemia
- Low Birth Weight (IUGR)

RISK OF NEWBORN MORTALITY


Effect of Malaria on Pregnancy: Unstable Transmission Areas

- Acquired immunity - low
  - Clinical illness
    - Severe disease
      - Risk to mother
      - Risk to fetus


HIV/AIDS and Malaria in Pregnancy

- Being HIV+ reduces woman’s resistance to malaria:
  - Higher risk of malaria
- Malaria treatment less effective
- Increased maternal anemia
- Increased risk of pre-term birth and LBW
- Malaria increases risk of an HIV+ woman transmitting HIV to her baby

Malaria Control during Pregnancy

1. Focused antenatal care and health education
2. Intermittent preventive treatment (IPT)
3. Insecticide-treated nets (ITNs)
4. Case management of malaria disease
1. FANC and Health Education

- In Africa, at least 70% of women have at least one antenatal visit, a unique opportunity for:
  - Health education/counseling about malaria in pregnancy
  - Provision of iron and folate
  - IPT
  - Prompt diagnosis and treatment of malaria

Question ??

- What are some points you want to remember when counseling a pregnant woman in a malarious area?

Health Education Points

- Malaria transmitted by mosquito bites
- Pregnant women and children most at risk
- Pregnant women infected with malaria may have no symptoms
- Women with HIV/AIDS are at higher risk
- Can lead to severe anemia, abortion, LBW
- Malaria is preventable
- Malaria can be easily treated if recognized early

Health Education Points (cont.)

- Control mosquito breeding
- Prevent mosquitoes from biting (and kill mosquitoes before they bite) – Insecticide-treated nets: where to find them, how to use them, how they work
- Kill malaria parasites in the blood – Intermittent preventive treatment: how it works, the importance of returning to receive all recommended doses
2. Intermittent Preventive Treatment

- Based on the assumption that every woman in a malaria-endemic area is infected with malaria
- Recommends that every pregnant woman receives at least 2 treatment doses of an effective malaria drug
- Sulfadoxine-pyrimethamine (SP or Fansidar) currently considered most effective IPT drug

IPT

- IPT with sulfadoxine-pyrimethamine:
  - Single dose: 3 tablets taken at once, preferably under direct observation
  - Fansidar is the most common brand name; Others include Falcidin, Laradox, Maladox
  - SP generally more effective than chloroquine because of increasing prevalence of chloroquine resistance

IPT Timing of Doses

- SP should be avoided during first 16 weeks of pregnancy:
  - Initial development of fetus and organ formation
  - Period of slow rate of growth
- Give first dose after quickening:
  - Clear parasites during period of maximum fetal growth

IPT Timing of Doses (cont.)

- WHO Recommendation:
  - IPT should be given to all pregnant women at regularly scheduled ANC visits after quickening (after 16 weeks gestation).
  - Ideal ANC visit schedule of four visits, three after quickening: IPT should be given at these ANC visits after quickening
Steps for Providing IPT

- Follow local protocol
- Determine quickening has occurred
- Inquire about allergies to sulfa drugs (history of severe skin rash)
- Inquire about use of SP in the last month
- Provide 3 tablets of SP with clean water in a clean cup
- Observe the patient swallowing all 3 tablets (DOT)

Steps for Providing IPT (cont.)

- Record SP on the antenatal card and on clinic record
- Instruct patient to return at next schedule visit or sooner if there are danger signs or she is feeling ill
- Ask about side effects about previous dose before giving the next dose, which should not be less than 4 weeks from the last dose

IPT – Instructions for SP

- Contraindications to using SP:
  - Do NOT give to women taking Septrin, Cotrimoxazole or other sulfa-containing drugs, plus ask about the use of these medicines before giving SP
  - Do not give SP more frequently than monthly, plus be sure at least 1 month has passed since the last dose of SP

IPT Precautions

- HIV+ women taking cotrimoxazole prophylaxis do not need IPT; they should sleep under an ITN
- Women taking iron and folate may continue to take it every day after receiving IPT as long as the dose of folate is not more than 0.4 mg (400 micrograms); Normally women receive 0.4 mg/day
3. Insecticide-Treated Nets

- Reduce transmission by physically preventing mosquitoes from landing on sleeping persons
- Repel and kill mosquitoes that come in contact with the net
- Kill other insects like cockroaches, lice, bedbugs and ticks
- Should be used by pregnant women as early during the pregnancy as possible and throughout pregnancy and postpartum

ITNs: How to Use Them

- Hang above bed or sleeping mat
- Tuck under mattress or mat
- Use every night, all year long
- Use for everybody, but if not enough ITNs for everyone, give priority to pregnant women, infants and children
- Remember to use a variety of methods to prevent bites

Summary of Health Education Points

- Administer intermittent preventive treatment (IPT) with SP at least twice during pregnancy (according to country policy) at regularly scheduled ANC visits after quickening, but not more often than monthly
- Sleep under ITNs every night
- Use a variety of methods to prevent bites

4. Case Management

- Drug efficacy
- Effective drugs are needed for *P. falciparum*
- Drug of choice depends on geographic drug resistance profile
- ACTs preferred treatment for uncomplicated malaria in 2nd or 3rd trimester
- Quinine drug of choice for complicated first trimester malaria
SP Resistance

- Resistance of *P. falciparum* to SP has been increasing across Africa
- WHO recommends that where resistance has not reached high levels, countries continue to use SP for IPT as it is still effective for prevention of malaria in pregnancy
- No new drugs available to take the place of SP for IPT
- ITN use remains one of the best prevention measures available to women and families

Case Management

- First decide whether malaria is uncomplicated or severe
- If uncomplicated—manage according to national protocol
- If severe—refer immediately to higher level of care; consider giving first dose of anti-malarial if available and the provider is familiar with its use

Question ??

How do you differentiate simple malaria from severe malaria in a pregnant woman?

Recognizing Malaria in Pregnant Women

**Uncomplicated malaria**
- Fever
- Shivering/chills
- Headaches
- Muscle/joint pains
- Nausea/vomiting
- False labor pains

**Severe**
- Signs of uncomplicated malaria, plus:
  - Dizziness
  - Breathlessness
  - Sleepy/drowsy
  - Confusion/coma
  - Sometimes fits, jaundice, severe dehydration
Managing Simple Malaria

- Provide first line anti-malarial drugs:
  - Follow country guidelines:
    - In first trimester, usually quinine
    - In second and third trimesters, some countries now use artemisinin-combined therapy (ACT)
- Manage fever:
  - Analgesics, tepid sponging
- Diagnose and treat anemia
- Provide fluids

Fever during Pregnancy

- Temperature of 38 C° or higher
- Malaria is NOT the only cause of fever:
  - Bladder or kidney infection
  - Typhoid
  - Pneumonia
  - Uterine infection
- Careful history and physical (including labs as needed) to rule out other causes

Fever during Pregnancy (cont.)

- Ask about or examine for:
  - Type, duration, degree of fever
  - Signs of other infections:
    - Chest pain/difficulty breathing
    - Pain when urinating/foul smelling urine
    - Foul-smelling watery vaginal discharge
    - Tender/painful uterus or abdomen
  - Signs of severe malaria or other danger signs

Fever during Pregnancy (cont.)

Refer the woman immediately if you suspect anything other than simple malaria
Treatment Follow-Up

- Arrange follow-up within 48 hours
- Advise to return if condition worsens
- Review danger signs
- Reinforce use of ITNs

Referral

- Refer immediately if:
  - Condition does not improve within 48 hours of starting treatment
  - Condition worsens and/or other symptoms appear
  - Signs/symptoms suggestive of severe malaria
  - Recurrence of malaria symptoms within 14 days of starting treatment

Treating Severe Malaria

- Rule out other causes of convulsions/comas, such as eclampsia
- Refer severe complicated malaria:
  - If referral delayed or arrival time prolonged, treatment pre-referral with artesunate or artemisinin by rectum or IM or quinine IM (WHO 2006)
- Manage fever
- Correct dehydration and hypoglycemia as needed
- Control convulsions (fits)
- Monitor/treat for complications such as severe anemia and kidney failure

Summary of Case Management

- Successful management of simple malaria requires prompt, complete treatment
- Know the signs of simple and severe malaria
- Fever is not caused only by malaria
- Malaria that recurs within 2 weeks is possibly resistant: Treat with second line drug
- Early referral for severe malaria avoids complications
References


Ouma P et al. 2005. Does folic acid supplementation affect the efficacy of sulfadoxine-pyrimethamine in clearance of maternal P. falciparum parasitemia? Results of a randomized placebo-controlled trial. Presentation to the American Society of Tropical Medicine and Hygiene. (December)

References (cont.)


# MODULE 9: BEST PRACTICES IN CARE DURING LABOR AND CHILDBIRTH—SESSION PLAN

## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Care during Labor and Childbirth, including AMTSL, Assisted Vaginal Birth, Breech Birth, and Episiotomy and Repair</td>
<td>240 min</td>
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</tbody>
</table>

## SESSION OBJECTIVES

*By the end of this session, participants will be able to:*

- Identify best practices for managing labor and childbirth, including:
  - Skilled attendant
  - Birth preparedness/complication readiness
  - Partograph
  - Active management of the third stage of labor
  - Restricted episiotomy and repair

- Identify harmful practices with the goal of eliminating them from practice

## Methods and Activities

**Illustrated presentation/discussion: Best practices in care for labor and childbirth (30 min)**

- Use questions and discussion throughout presentation as indicated on slides.
- Be sure to cover the following topical areas:
  - Objectives of care during labor and childbirth
  - Importance of the time of labor and childbirth
  - Birth preparedness and complication readiness
  - Partograph
  - Actions for obstructed labor
  - Restricted use of episiotomy
  - Infection prevention during labor and birth
  - Active management of the third stage of labor
  - Monitoring immediately after birth
  - Positions in labor and childbirth
  - Support during labor and childbirth
  - Harmful practices during labor and childbirth
  - Practices used for specific interventions

- Exercise below is inserted within the PowerPoint presentation.

### Exercise: Use of partograph (60 min)*

- Read each step of the Partograph Exercise to the class, plot information on the poster-size partograph.
- At same time, learners plot information on partograph form.
- For second (and third, if time) exercise, read each step to class and have learners plot information on their own partograph form.
- Answer questions as they arrive. Observe individual learners to ensure they are plotting correctly.
- Summarize key points of partograph plotting.
- May also choose to use partographs taken from clinical records/experience and to use as few or as many as appropriate.

## Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Videos if available:
  - Birth in the Squatting Position
  - Delivery Self Attachment
- Blank partograph forms
- Copy (copies) of exercise
- Copy of Skills Practice Session
- Copies of Learning Guides and Checklists for Assisting Normal Birth, Active Management of the Third Stage of Labor, Breech Birth, Episiotomy and Repair
- Large laminated partograph
- Childbirth simulator
- Syringes and vials
- High-level disinfected or surgical gloves
- Personal protective barriers
- Delivery kit/pack
- Episiotomy repair set
- Suture material and needles
- 0.5% chlorine solution and receptacle for decontamination
- Leak-proof container or plastic bag

## Case Studies (Optional if time permits during class or clinical practice):

- If during class session: Divide participants into two groups. Give each group one case study. Instruct them to read, discuss and answer questions; After 30 min., reassemble group and discuss answers to each case study.
<table>
<thead>
<tr>
<th>Methods and Activities</th>
<th>Materials/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• If during clinical situation: Give any group of students that is not occupied with a client/patient (i.e., students who have “down time”) a case study to read and answer questions. Discuss the answers with the group.</td>
<td></td>
</tr>
<tr>
<td>Video: Birth in Squatting Position with discussion (30 min)</td>
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<tr>
<td>Video: Delivery Self Attachment with discussion (30 min)</td>
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<tr>
<td><strong>Skills demonstration and practice:</strong> Normal birth: Active management of third stage of labor, birth with vacuum extractor, assisting a breech birth, and episiotomy and repair (195 min)</td>
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<tr>
<td>Demonstration: (45 min)</td>
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<tr>
<td>Distribute learning guides and demonstrate:</td>
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<tr>
<td>• Assisting normal birth</td>
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<tr>
<td>• Active management of the third stage of labor</td>
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<tr>
<td>• Episiotomy and repair</td>
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<tr>
<td>• Assisting a breech birth</td>
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<tr>
<td><strong>Practice:</strong> (150 min)</td>
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<tr>
<td>Divide participants into three groups to practice each skill with a model. One practices while others in group follow with learning guide. Participants rotate within small group until all have practiced. They then rotate to another skill station.</td>
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<tr>
<td><strong>NOTE:</strong> Activities in this session may be implemented across several hours or several days and may be interspersed with other sessions depending on class schedule.</td>
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<tr>
<td>• Session on Best Practices in Care of the Newborn may be inserted into this session prior to skills demonstration and practice since Immediate Newborn Care is part of Normal Labor and Childbirth.</td>
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</tr>
<tr>
<td>• Session on Best Practices in Care of Assisted Breech Birth and Using the Partograph may be included in this module or treated as a separate module.</td>
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<tr>
<td>* If the facilitator/teacher prefers, she/he may use real charts of women who have recently labored/ delivered for partograph exercise, being careful to block out names and any other identifying information.</td>
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</tbody>
</table>
CASE STUDY 9.1: CHILDBIRTH ASSESSMENT AND CARE
(SUPPORT IN LABOR)

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. A. is 30 years of age. She attended the antenatal clinic 2 weeks ago and has now come to the hospital with her mother-in-law because labor pains started 3 hours ago. Mrs. A. reports that the pains start in her back and move forward, last 20 seconds, and occur about every 8 minutes. Mrs. A. appears very anxious.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. A.?

ASSESSMENT
(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. A., and why?

3. What physical examination will you include in your assessment of Mrs. A., and why?

4. What laboratory tests will you include in your assessment of Mrs. A., and why?

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. A. and your main findings include the following:

History:

- Mrs. A. is 39 weeks pregnant.
- This is her second pregnancy.
- Her first pregnancy and birth were uncomplicated, although she repeatedly states that labor was more painful than she had expected.
- She confirms that labor started 3 hours ago and that contractions seem to be growing increasingly longer and more frequent.
- All other aspects of her history are normal or without significance.
Physical Examination:
- Mrs. A. kneels to the floor and cries out with each contraction.
- On measurement of vital signs: Respirations are 18 per minute; BP is 120/82; pulse is 88 beats per minute; temperature is 37.8º C.
- On abdominal examination:
  - Fundal height is 33 cm.
  - Presenting part is four-fifths above the pelvic brim.
  - Fetal heart tones are 124 beats per minute.
  - Contractions are irregular every 8–10 minutes and last 14–18 seconds.
- On cervical examination:
  - Dilation of the cervix is 3 cm.
  - Membranes are intact.
  - Presentation is vertex and there is no molding.
  - Her physical exam reveals no abnormal findings.

Testing:
- Blood group is O Positive, RPR is negative, and blood was taken for HIV testing.

5. Based on these findings, what is Mrs. A.'s diagnosis (problem/need) and why?

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. A., and why?

EVALUATION
- Mrs. A. continues to have regular contractions; by 2 hours after admission, she is having 2 contractions in 10 minutes, each lasting 20–40 seconds.
- Maternal pulse remains between 80 and 88 beats per minute; fetal heart rate remains between 150 and 160 beats per minute.
- Mrs. A.’s level of anxiety remains high and she continues to become agitated during contractions.

7. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
CASE STUDY 9.1: CHILDBIRTH ASSESSMENT AND CARE (SUPPORT IN LABOR)—ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. A. is 30 years of age. She attended the antenatal clinic 2 weeks ago and has now come to the hospital with her mother-in-law because labor pains started 3 hours ago. Mrs. A. reports that the pains start in her back and move forward, last 20 seconds, and occur about every 8 minutes. Mrs. A. appears very anxious.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. A.?
   - Mrs. A. should be greeted respectfully and with kindness and offered a seat to help her feel comfortable and welcome, establish rapport, and build trust. A good relationship helps to ensure that the client will adhere to the care plan and return for continued care.
   - Ascertain, from other staff or from records, whether or not Mrs. A. has had a Quick Check. If she has not, you should conduct a Quick Check now. The Quick Check detects signs/symptoms of life-threatening complications and of advanced labor (e.g., strong regular contractions, urge to push, fluid leaking from vagina, grunting or moaning) so that a woman receives the urgent care she requires before receiving routine assessment/care.

ASSESSMENT

(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. A., and why?
   - If she is not in advanced labor, you should take a complete history (i.e., personal information, estimated date of childbirth/menstrual history, history of present pregnancy and labor childbirth, obstetric history, medical history) to guide further assessment and help individualize care provision. Some responses may help determine whether she is in labor as well as stage/phase of labor, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.
   - When asking about the history of the current labor, note whether her contractions are increasing in intensity, frequency, and duration.
   - When asking about her living situation, previous labors and childbirths, and the current pregnancy, note any stressful experiences that may explain her extreme anxiety.
3. What physical examination will you include in your assessment of Mrs. A., and why?

- If she is not in advanced labor, you should perform a complete physical examination (i.e., well-being, vital signs, breasts, abdomen [fundal height, lie, presentation, fetal heart rate], genital examination, and cervical examination) to guide further assessment and help individualize care provision. Some findings may help determine whether she is in labor as well as stage/phase of labor, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

- Assessment of general well-being, including gait and movements, behavior and vocalizations, help to assess her degree of anxiety.

- Mrs. A.’s respirations, blood pressure, temperature, and pulse should be measured to rule out any physical problems or abnormalities that might explain her feelings of anxiety.

- During abdominal examination special attention should be given to:
  - Fundal height, which will help confirm gestational age or indicate size-date discrepancy
  - Descent of the presenting part, which would help in evaluating progress of labor
  - Fetal heart tones, which will help indicate fetal condition
  - Frequency and duration of contractions to determine quality of contractions and help determine stage/phase of labor, as well as evaluate progress of labor

- Cervical examination should include assessment of:
  - Dilation of the cervix to help determine stage and phase of labor, as well as evaluate progress of labor
  - Membranes and amniotic fluid to determine whether the membranes have ruptured and to help assess fetal condition
  - Presentation to determine if there is any abnormality that will affect the birth
  - Molding to help determine fetal condition and indicate possible obstruction of labor (fetal-pelvic disproportion)

4. What laboratory tests will you include in your assessment of Mrs. A., and why?

- You should conduct all routine laboratory tests if available and as needed (i.e., RPR for syphilis, HIV [if she does not “opt out”], and Rh factor and blood group) to guide further assessment and help individualize care provision. Some findings may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. A. and your main findings include the following:
History:

- Mrs. A. is 39 weeks pregnant.
- This is her second pregnancy.
- Her first pregnancy and birth were uncomplicated, although she repeatedly states that labor was more painful than she had expected.
- She confirms that labor started 3 hours ago and that contractions seem to be growing increasingly longer and more frequent.
- All other aspects of her history are normal or without significance.

Physical Examination:

- Mrs. A. kneels to the floor and cries out with each contraction.
- On measurement of vital signs: Respirations are 18 per minute; BP is 120/82; pulse is 88 beats per minute; temperature is 37.8º C.
- On abdominal examination:
  - Fundal height is 33 cm.
  - Presenting part is four-fifths above the pelvic brim.
  - Fetal heart tones are 124 beats per minute.
  - Contractions are irregular every 8–10 minutes and last 14–18 seconds.
- On cervical examination:
  - Dilation of the cervix is 3 cm.
  - Membranes are intact.
  - Presentation is vertex and there is no molding.
- Her physical exam reveals no abnormal findings.

Testing:

- Blood group is O Positive, RPR is negative, and blood was taken for HIV testing.

5. Based on these findings, what is Mrs. A.'s diagnosis (problem/need), and why?

- Mrs. A. is in the latent phase of the first stage of labor.
- She is anxious and agitated during contractions, possibly because she remembers her first labor and delivery as being more painful than she had anticipated.
CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. A., and why?

- A supportive, encouraging atmosphere that is respectful of Mrs. A.’s wishes should be established to help allay anxiety and provide emotional support.

- Mrs. A. should receive ongoing assessment (e.g., vital signs, fetal heart tones, descent, contractions) as needed, at least every 4 hours, to ensure that any problems or abnormalities in the condition of mother or baby or progress of labor are detected early for immediate attention; and to provide reassurance to Mrs. A. and her family that her care is continuous.

- A partograph should be started when she reaches 4 cm.

- She should receive ongoing supportive care:
  - Her mother-in-law should be encouraged to stay with her to help allay anxiety and provide continuous emotional support.
  - She should be given a back rub or massage and be taught to breathe out more slowly than usual during contractions and relax with each breath—this should help to relieve her anxiety.
  - Mrs. A. should be allowed to remain active, as she desires; rest and sleep should also be encouraged as she desires so that she will be well rested when active labor begins.
  - Food should be encouraged as tolerated and no restrictions should be placed on intake as long as Mrs. A. has no nausea and/or vomiting. She should be provided with nutritious drinks to maintain hydration (2 liters of oral fluids/24 hours minimum) and to meet caloric/energy needs.
  - Mrs. A. should be encouraged to empty her bladder every 2 hours and empty her bowels as needed for her comfort, to prevent urinary retention and to allow descent of the fetal head. She should not be given an enema as this does not prevent soiling or infection and is uncomfortable and unpleasant for the mother.
  - To maintain cleanliness, Mrs. A. should be encouraged to bathe before active labor begins; the genital area should be cleansed before each examination to prevent introduction/entry of organisms into the vagina.

EVALUATION

- Mrs. A. continues to have regular contractions; by 2 hours after admission, she is having 2 contractions in 10 minutes, each lasting 20–40 seconds.

- Maternal pulse remains between 80 and 88 beats per minute; fetal heart rate remains between 150 and 160 beats per minute.

- Mrs. A.’s level of anxiety remains high and she continues to become agitated during contractions.
7. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Care should continue as outlined above for reasons given above.

- Breathing techniques should be explained again to Mrs. A., emphasizing the importance of breathing out more slowly than usual and relaxing with each expiration to encourage relaxation and conservation of energy.

- Praise, reassurance and encouragement should be given to Mrs. A. to allay anxiety and provide the extra emotional support that is needed as labor progresses.

- Information on the process of labor and her progress should be provided to Mrs. A. to help allay anxiety and provide some feeling of “control” and participation in her labor.

- Care must be taken to ensure that a birth companion is always with Mrs. A. so that she is not left alone.
CASE STUDY 9.2: CHILDBIRTH ASSESSMENT AND CARE (SUPPORT IN CHILDBIRTH)

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. B. is 25 years of age. Her mother-in-law has brought her to the hospital and reports that she has been in labor for 8 hours and that her membranes ruptured 3 hours ago. You greet Mrs. B. and her mother-in-law respectfully and with kindness. On arrival at the hospital, she had a strong contraction lasting 45 seconds. Because she is showing signs of labor, you complete the Quick Check to detect signs/symptoms of life-threatening complications and, finding none, quickly proceed to physical examination to determine whether birth is imminent. Although Mrs. B. is not pushing, you find that she has a bulging, thin perineum.

ASSESSMENT (Information gathering through history, physical examination, and testing)

1. What history will you include in your assessment of Mrs. B., and why?
2. What physical examination will you include in your assessment of Mrs. B., and why?
3. What laboratory tests will you include in your assessment of Mrs. B., and why?

DIAGNOSIS (Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

History:

- Mrs. B. is at term.
- This is her fourth pregnancy.
- Her previous pregnancies/deliveries were uncomplicated.
- All other aspects of her history are normal or without significance.

Physical Examination:

- Vital signs are as follows: Respirations are 20 per minute; BP is 130/82; pulse is 88 beats per minute; temperature is 37.8°C.
- On abdominal examination:
- No scars are noted and uterus is oval-shaped.
- Fundal height is 34 cm.
- One set of fetal parts is palpable.
- Fetus is longitudinal in lie and cephalic presentation.
- Presenting part is not palpable above the symphysis.
- Fetal heart tones are 148 per minute.
- Bladder is not palpable.
- Contractions are 3 per 10 minutes, 40–50 seconds in duration each.

- On genital and cervical examination:
  - Her cervix is 10 cm dilated and fully effaced.
  - Presentation is vertex and the fetal head is on the perineum.
  - Visible amniotic fluid is clear.

- All other aspects of her physical examination are within normal range.

**Testing:**

- Test results not yet back at this stage.

4. **Based on these findings, what is Mrs. B.'s diagnosis (problem/need), and why?**

**CARE PROVISION (Implementing plan of care and interventions)**

5. **Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. B., and why?**

**EVALUATION**

- Mrs. B. has 3 contractions every 10 minutes, each lasting more than 40 seconds.
- After 15 minutes, she begins pushing spontaneously with each contraction.
- After another 15 minutes, she has a spontaneous vertex birth of a baby boy. The baby breathes immediately at birth.
- The third stage of labor has not yet been completed.

6. **Based on these findings, what is your continuing plan of care for Mrs. B., and why?**
CASE STUDY 9.2: CHILDBIRTH ASSESSMENT AND CARE
(SUPPORT IN CHILDBIRTH)—ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. B. is 25 years of age. Her mother-in-law has brought her to the hospital and reports that she has been in labor for 8 hours and that her membranes ruptured 3 hours ago. You greet Mrs. B. and her mother-in-law respectfully and with kindness. On arrival at the hospital, she had a strong contraction lasting 45 seconds. Because she is showing signs of labor, you complete the Quick Check to detect signs/symptoms of life-threatening complications and, finding none, quickly proceed to physical examination to determine whether birth is imminent. Although Mrs. B. is not pushing, you find that she has a bulging, thin perineum.

ASSESSMENT
(Information gathering through history, physical examination, and testing)

1. What history will you include in your assessment of Mrs. B., and why?
   - Because there are signs of advanced labor, there is no time to do a complete history. Mrs. B.’s antenatal records should be quickly checked for history of present pregnancy, as well as obstetric and medical histories, with particular attention to problems and treatments.

2. What physical examination will you include in your assessment of Mrs. B., and why?
   - You should perform the following elements of examination to guide further assessment and help individualize care provision. Some findings may help determine stage/phase of labor, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.
   - Mrs. B.’s respirations, blood pressure, temperature and pulse should be measured to ensure normalcy/normal progress, and detect abnormal signs/symptoms.
   - Abdominal examination including assessment of:
     - Surface of abdomen for presence of scars, which might indicate a previous C-section or other uterine surgery
     - Uterine shape, which may indicate lie and/or uterine abnormality
     - Fundal height, which will help confirm gestational age or indicate size-date discrepancy
     - Fetal parts (and movement), which may indicate multiple pregnancy
     - Fetal lie and presentation, which, if abnormal, would indicate the need for urgent referral/transfer
● Descent of the presenting part, which would help in evaluating progress of labor
● Fetal heart tones, which will help indicate fetal condition
● Bladder, which may indicate urinary retention
● Frequency and duration of contractions to determine quality of contractions and help determine stage/phase of labor, as well as evaluate progress of labor
● Genital examination including vaginal opening, skin, labia and vaginal secretions to rule out infection; any fetal part or cord protruding from vaginal opening, which would require immediate attention; female genital cutting or any other abnormality that might affect the birth.
● Cervical examination including assessment of:
  ● Dilation of the cervix to help determine stage and phase of labor, as well as evaluate progress of labor
  ● Membranes and amniotic fluid to determine whether the membranes have ruptured and to help assess fetal condition
  ● Presentation to determine if there is any abnormality that will affect the birth
  ● Molding to help determine fetal condition and indicate possible obstruction of labor (fetal-pelvic disproportion)

3. What laboratory tests will you include in your assessment of Mrs. B., and why?
● You should rapidly draw blood to send to laboratory for RPR for syphilis, HIV [if she does not “opt out”], and blood group and Rh factor, if available, to guide further assessment and help individualize care provision. Some findings may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

DIAGNOSIS (Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

History:
● Mrs. B. is at term.
● This is her fourth pregnancy.
● Her previous pregnancies/deliveries were uncomplicated.
● All other aspects of her history are normal or without significance.

Physical Examination:
● Vital signs are as follows: Respirations are 20 per minute; BP is 130/82; pulse is 88 beats per minute; temperature is 37.8°C.
● On abdominal examination:
  ● No scars are noted and uterus is oval-shaped.
  ● Fundal height is 34 cm.
• One set of fetal parts is palpable.
• Fetus is longitudinal in lie and cephalic presentation.
• Presenting part is not palpable above the symphysis.
• Fetal heart tones are 148 per minute.
• Bladder is not palpable.
• Contractions are 3 per 10 minutes, 40–50 seconds in duration each.

• On genital and cervical examination:
  • Her cervix is 10 cm dilated and fully effaced.
  • Presentation is vertex and the fetal head is on the perineum.
  • Visible amniotic fluid is clear.
• All other aspects of her physical examination are within normal range.

Testing:

• Test results not yet back at this stage.

4. Based on these findings, what is Mrs. B.'s diagnosis (problem/need), and why?

• Mrs. B. has reached the second stage of labor, indicated by full dilatation and effacement of the cervix.

CARE PROVISION (Implementing plan of care and interventions)

5. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. B., and why?

• Mrs. B. must not be left alone.
• She should receive ongoing assessment (e.g., maternal pulse and contractions every 30 minutes, fetal heart rate every 5 minutes) to ensure that any problems or abnormalities in the condition of mother or baby or progress of labor are detected early for immediate attention.
• She should receive ongoing supportive care:
  • A supportive, encouraging atmosphere that is respectful of Mrs. B’s wishes should be established to provide emotional support.
  • Mrs. B. should be made comfortable and encouraged to adopt a position for pushing that is comfortable for her and aids in the descent of the fetus: semi-sitting/reclining, squatting, hands and knees or lying on side.
  • Mrs. B. should be encouraged to follow her own tendency to push: the intensity of her contractions should regulate her efforts to push. She should be encouraged not to hold her breath or push hard for a long time, pushing for 5–10 seconds and then taking several breaths before pushing again helps to ensure that the baby gets plenty of oxygen.
• After each contraction, Mrs. B. should be encouraged to take a deep breath and let it out slowly, relaxing her entire body. She should be praised, encouraged and reassured regarding her progress.
• She should be offered cool, sweetened fluids between contractions.

EVALUATION

• Mrs. B. has 3 contractions every 10 minutes, each lasting more than 40 seconds.
• After 15 minutes, she begins pushing spontaneously with each contraction.
• After another 15 minutes, she has a spontaneous vertex birth of a baby boy. The baby breathes immediately at birth.
• The third stage of labor has not yet been completed.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?

• Immediate newborn care should be provided:
  • Thoroughly dry baby and cover in clean, warm cloth.
  • Clamp/tie and cut cord.
  • Place baby in skin-to-skin contact on the mother's abdomen; encourage breastfeeding.
• Once Mrs. B.‘s abdomen is palpated to rule out the presence of an additional baby, the placenta should be delivered using active management of third stage of labor:
  • Administer oxytocin 10 units IM.
  • Perform controlled cord traction.
  • Deliver and examine the placenta.
  • Placenta, cord, and membranes should be checked for completeness.
  • Massage the uterus through the abdomen until firmly contracted (Mrs. B. should also be shown how to massage her fundus to maintain the contraction).
  • Examine the vagina and perineum for lacerations or tears.
• Mrs. B. should be made comfortable (e.g., cleanse perineum, change bed linens).
• She and the baby should receive ongoing assessment every 15 minutes for first 2 hours following birth (e.g., mother: blood pressure, pulse, fundus [for firmness], and vaginal bleeding; newborn: respiration, warmth, color to ensure that any problems or abnormalities in the condition of mother or baby are detected early for immediate attention.

REFERENCE

Basic Maternal and Newborn Care—Section Two: Core Components of Basic Care, Chapters 4 and 6.
EXERCISE: USING THE PARTOGRAPH

PURPOSE

The purpose of this exercise is to enable learners to use the partograph to manage labor.

INSTRUCTIONS

The facilitator/teacher should review the partograph form with learners before beginning the exercise.

RESOURCES

The following equipment or representations thereof:

- Partograph forms (three for each learner)
- Poster-size laminated partograph
- Exercise: Using the Partograph
- Answer Key

Each learner should be given three blank partograph forms.

Case 1: The facilitator/teacher should read each step to the class, plot the information on the poster-size laminated partograph and ask the questions included in each of the steps. At the same time, learners should plot the information on one of their partograph forms.

Case 2: The facilitator/teacher should read each step to the class and have learners plot the information on another of their partograph forms. The questions included in each step should be asked as they arise.

Case 3: The facilitator/teacher should read each step to the class and have learners plot the information on the third of their partograph forms. The questions should then be asked when the partograph is completed.

Throughout the exercise, the facilitator/teacher should ensure that learners have completed their partograph forms correctly.

The facilitator/teacher should provide learners with the three completed partograph forms from the Answer Key and have them compare these with the partograph forms they have completed. The facilitator/teacher should discuss and resolve any differences between the partographs completed by learners and those in the Answer Key.
USING THE MODIFIED WHO PARTOGRAPH

The WHO partograph has been modified to make it simpler and easier to use. The latent phase has been removed and plotting on the partograph begins in the active phase when the cervix is 4 cm dilated. Record the following on the partograph:

**Patient information:** Fill out name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes or time elapsed since rupture of membranes (if rupture occurred before charting on the partograph began).

Fetal heart rate: Record every half hour.

**Amniotic fluid:** Record the color of amniotic fluid at every vaginal examination:
- I: membranes intact;
- R: membranes ruptured;
- C: membranes ruptured, clear fluid;
- M: meconium-stained fluid;
- B: blood-stained fluid.

**Moulding:**
- 1: sutures apposed;
- 2: sutures overlapped but reducible;
- 3: sutures overlapped and not reducible.

**Cervical dilatation:** Assessed at every vaginal examination and marked with a cross (X). Begin plotting on the partograph at 4 cm.

**Alert line:** A line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour.

**Action line:** Parallel and 4 hours to the right of the alert line.
Descent assessed by abdominal palpation: Refers to the part of the head (divided into five parts) palpable above the symphysis pubis; recorded as a circle (○) at every abdominal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.

Hours: Refers to the time elapsed since onset of active phase of labor (observed or extrapolated).

Time: Record actual time.

Contractions: Chart every half hour; count the number of contractions in a 10-minute time period, and their duration in seconds.

- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds:

Oxytocin: Record the amount of oxytocin per volume IV fluids in drops per minute every 30 minutes when used.

Drugs given: Record any additional drugs given.

Pulse: Record every 30 minutes and mark with a dot (●).

Blood pressure: Record every 4 hours and mark with arrows.

Temperature: Record every 2 hours.

Protein, acetone and volume: Record when urine is passed.
CASE 1

Step 1
- Mrs. A. was admitted at 05.00 on 12.9.2003
- Membranes ruptured 04.00
- Gravida 3, Para 2+0
- Hospital number 7886
- On admission the fetal head was 4/5 palpable above the symphysis pubis and the cervix was 2 cm dilated

Q: What should be recorded on the partograph?

Note: Mrs. A. is not in active labor. Record only the details of her history, i.e., first four bullets, not the descent and cervical dilation.

Step 2
- 09.00:
  - The fetal head is 3/5 palpable above the symphysis pubis
  - The cervix is 5 cm dilated

Q: What should you now record on the partograph?

Note: Mrs. A. is now in the active phase of labor. Plot this and the following information on the partograph:

- 3 contractions in 10 minutes, each lasting 20–40 seconds
- Fetal heart rate (FHR) 120
- Membranes ruptured, amniotic fluid clear
- Sutures of the skull bones are apposed
- Blood pressure 120/70 mmHg
- Temperature 36.8°C
- Pulse 80/minute
- Urine output 200 mL; negative protein and acetone

Q: What steps should be taken?
Q: What advice should be given?
Q: What do you expect to find at 13.00?
Step 3

Plot the following information on the partograph:

09.30  FHR 120, Contractions 3/10 each 30 seconds, Pulse 80/minute  
10.00  FHR 136, Contractions 3/10 each 30 seconds, Pulse 80/minute  
10.30  FHR 140, Contractions 3/10 each 35 seconds, Pulse 88/minute  
11.00  FHR 130, Contractions 3/10 each 40 seconds, Pulse 88/minute, Temperature 37°C  
11.30  FHR 136, Contractions 4/10 each 40 seconds, Pulse 84/minute, Head is 2/5 palpable  
12.00  FHR 140, Contractions 4/10 each 40 seconds, Pulse 88/minute  
12.30  FHR 130, Contractions 4/10 each 45 seconds, Pulse 88/minute  
13.00  FHR 140, Contractions 4/10 each 45 seconds, Pulse 90/minute, Temperature 37°C

- 13.00:
  - The fetal head is 0/5 palpable above the symphysis pubis
  - The cervix is fully dilated
  - Amniotic fluid clear
  - Sutures apposed
  - Blood pressure 100/70 mmHg
  - Urine output 150 mL; negative protein and acetone

Q: What steps should be taken?  
Q: What advice should be given?  
Q: What do you expect to happen next?

Step 4

Record the following information on the partograph:

- 13.20: Spontaneous birth of a live female infant weighing 2,850 g

Answer the following questions:

Q: How long was the active phase of the first stage of labor?  
Q: How long was the second stage of labor?
CASE 2

Step 1

- Mrs. B. was admitted at 10.00 on 12.9.2003
- Membranes intact
- Gravida 1, Para 0+0
- Hospital number 1443

Record the information above on the partograph, together with the following details:
- The fetal head is 5/5 palpable above the symphysis pubis
- The cervix is 4 cm dilated
- 2 contractions in 10 minutes, each lasting less than 20 seconds
- FHR 140
- Membranes intact
- Blood pressure 100/70 mmHg
- Temperature 36.2°C
- Pulse 80/minute
- Urine output 400 mL; negative protein and acetone

Q: What is your diagnosis?
Q: What action will you take?

Step 2

- Plot the following information on the partograph:

10.30  FHR 140, Contractions 2/10 each 15 sec, Pulse 90/minute
11.00  FHR 136, Contractions 2/10 each 15 sec, Pulse 88/minute
11.30  FHR 140, Contractions 2/10 each 20 sec, Pulse 84/minute
12.00  FHR 136, Contractions 2/10 each 15 sec, Pulse 88/minute, Temperature 36.2°C, Membranes intact

- 12.00:
  - The fetal head is 5/5 palpable above the symphysis pubis
  - The cervix is 4 cm dilated, membranes intact

Q: What is your diagnosis?
Q: What action will you take?
Step 3

Plot the following information on the partograph:

- 12.30 FHR 136, Contractions 1/10 each 15 sec, Pulse 90/minute
- 13.00 FHR 140, Contractions 1/10 each 15 sec, Pulse 88/minute
- 13.30 FHR 130, Contractions 1/10 each 20 sec, Pulse 88/minute
- 14.00 FHR 140, Contractions 2/10 each 20 sec, Pulse 90/minute, Temperature 36.8°C, Blood pressure 100/70 mmHg

- 14:00:
  - The fetal head is 5/5 palpable above the symphysis pubis
  - Urine output 300 mL; negative protein and acetone

Q: What is your diagnosis?

Q: What will you do?

Plot the following information on the partograph:

- 14:00:
  - The cervix is 4 cm dilated, sutures apposed
  - Labor augmented with oxytocin 2.5 units in 500 mL IV fluid at 10 drops per minute (dpm)
  - Membranes artificially ruptured, clear fluid

Step 4

Plot the following information on the partograph:

- 14.30:
  - 2 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 20 dpm
  - FHR 140, Pulse 90/minute

- 15.00:
  - 3 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 30 dpm
  - FHR 140, Pulse 90/minute

- 15:30:
  - 3 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 40 dpm
  - FHR 140, Pulse 88/minute
16.00:
- Fetal head 2/5 palpable above the symphysis pubis
- Cervix 6 cm dilated; sutures apposed
- 3 contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 50 dpm
- FHR 144, Pulse 92/minute
- Amniotic fluid clear

16.30:
- 3 contractions in 10 minutes, each lasting 45 seconds
- FHR 140, Pulse 90/minute
- Infusion remains at 50 dpm

Q: What steps would you take?

Step 5

17.00  FHR 138, Pulse 92/minute, Contractions 3/10 each 40 sec, Maintain at 50 dpm
17.30  FHR 140, Pulse 94/minute, Contractions 3/10 each 45 sec, Maintain at 50 dpm
18.00  FHR 140, Pulse 96/minute, Contractions 4/10 each 50 sec, Maintain at 50 dpm
18.30  FHR 144, Pulse 94/minute, Contractions 4/10 each 50 sec, Maintain at 50 dpm

Step 6

Plot the following information on the partograph:

19.00:
- Fetal head 0/5 palpable above the symphysis pubis
- 4 contractions in 10 minutes, each lasting 50 seconds
- FHR 144, Pulse 90/minute
- Cervix fully dilated

Step 7

Record the following information on the partograph:

19.30:
- 4 contractions in 10 minutes, each lasting 50 seconds
- FHR 142, Pulse 100/minute

20.00:
- 4 contractions in 10 minutes, each lasting 50 seconds
- FHR 146, Pulse 110/minute
20.10:
  - Spontaneous birth of a live male infant weighing 2,654 g

Answer the following questions:

Q: How long was the active phase of the first stage of labor?
Q: How long was the second stage of labor?
Q: Why was labor augmented?
CASE 3

Step 1
- Mrs. C. was admitted at 10.00 on 12.9.2003
- Membranes ruptured 09.00
- Gravida 4, Para 3+0
- Hospital number 6639

Record the information above on the partograph, together with the following details:
- Fetal head 3/5 palpable above the symphysis pubis
- Cervix 4 cm dilated
- 3 contractions in 10 minutes, each lasting 30 seconds
- FHR 140
- Amniotic fluid clear
- Sutures apposed
- Blood pressure 120/70 mmHg
- Temperature 36.8°C
- Pulse 80/minute
- Urine output 200 mL; negative protein and acetone

Step 2

Plot the following information in the partograph:

10.30  FHR 130, Contractions 3/10 each 35 sec, Pulse 80/minute
11.00  FHR 136, Contractions 3/10 each 40 sec, Pulse 90/minute
11.30  FHR 140, Contractions 3/10 each 40 sec, Pulse 88/minute
12.00  FHR 140, Contractions 3/10 each 40 sec, Pulse 90/minute, Temperature 37°C, Head 3/5 palpable
12.30  FHR 130, Contractions 3/10 each 40 sec, Pulse 90/minute
13.00  FHR 130, Contractions 3/10 each 45 sec, Pulse 88/minute
13.30  FHR 120, Contractions 3/10 each 45 sec, Pulse 88/minute
14.00  FHR 130, Contractions 4/10 each 45 sec, Pulse 90/minute, Temperature 37°C, Blood pressure 100/70 mmHg

- 14:00:
  - Fetal head 3/5 palpable above the symphysis pubis
  - Cervix 6 cm dilated, amniotic fluid clear
  - Sutures overlapped but reducible
Step 3

14.30  FHR 120, Contractions 4/10 each 40 sec, Pulse 90/minute, Clear fluid
15.00  FHR 120, Contractions 4/10 each 40 sec, Pulse 88/minute, Blood-stained fluid
15.30  FHR 100, Contractions 4/10 each 45 sec, Pulse 100/minute
16.00  FHR 90, Contractions 4/10 each 50 sec, Pulse 100/minute, Temperature 37°C
16.30  FHR 96, Contractions 4/10 each 50 sec, Pulse 100/minute
17.00  FHR 90, Contractions 4/10 each 50 sec, Pulse 110/minute

● 17:00:
  ● Fetal head 3/5 palpable above the symphysis pubis
  ● Cervix 6 cm dilated
  ● Amniotic fluid meconium stained
  ● Sutures overlapped and not reducible
  ● Urine output 100 mL; protein negative, acetone 1+

Step 4

Record the following information on the partograph:

● Cesarean section at 17.30, live female infant with poor respiratory effort and weighing 4,850 g

Answer the following questions:

Q: What is the final diagnosis?

Q: What action was indicated at 14.00, and why?

Q: What action was indicated at 15.00, and why?

Q: At 17.00, a decision was taken to do a cesarean section, and this was rapidly done. Was this a correct action?

Q: What problems may be expected in the newborn?
**EXERCISE: USING THE PARTOGRAPH—ANSWER KEY**

**CASE 1**

- **Step 1**—see partograph
- **Step 2**—see partograph:
  - Steps: Inform Mrs. A. and her family of the findings and what to expect; encourage her to ask questions; provide her comfort measures, hydration, and nutrition
  - Advice: Assume position of choice; drink plenty of fluids and eat as desired
- Expect at 13.00: Progress to at least 9 cm dilation

**Step 3**—see partograph:
- Steps: Prepare for birth
- Advice: Push only when urge to push
- Expect: Spontaneous vaginal birth

**Step 4:**
- 1st stage of active labor: 5 hours (4 hrs plotted [09.00 to 13.00] plus estimated 1 hour for dilation from 4–5 cm)
- 2nd stage of active labor: 20 minutes
CASE 2

- **Step 1**—see partograph:
  - Diagnosis: Active labor
  - Action: Inform Mrs. B. and her family about findings and what to expect; give continual opportunity to ask questions; encourage Mrs. B. to walk around and to drink and eat as desired

- **Step 2**—see partograph:
  - Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good fetal and maternal condition
  - Action: The facilitator should take the opportunity to open a discussion about using oxytocin for augmenting labor based on the clinical setting. For instance, is the woman being cared for at a health post that is 4 hours away from a district hospital where an oxytocin drip can be started? Or if she is being cared for in a district hospital, can other measures be used (such as hydration, ambulation) before oxytocin is started?

- **Step 3**:
  - Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good maternal and fetal condition
  - Action: Augment labor with oxytocin and artificial rupture of membranes; inform Mrs. B. and her family of the findings and what to expect; reassure; answer questions; encourage drinks; encourage Mrs. B. to assume position of choice

- **Step 4**:
  - Steps: Continue to augment labor (maintain oxytocin infusion rate at 50 dpm), provide comfort (psychological and physical); encourage drinks and nutrition

- **Step 5**—see partograph

- **Step 6**—see partograph

- **Step 7**:
  - 1st stage of labor: 9 hours
  - 2nd stage of labor: 1 hour 10 minutes
  - Why augment: Less than 3 contractions in 10 minutes, each lasting less than 40 seconds (lack of progress)
Step 1—see partograph

Step 2—see partograph

Step 3—see partograph

Step 4—see partograph:
  - Final diagnosis: Obstructed labor with fetal head 3/5 palpable above the symphysis pubis
• Cesarean section because Mrs. C. is already in secondary arrest of dilatation and descent despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds

• 15.00 action: Continue emotional and physical support, including hydration (because Mrs. C. and her family may become discouraged with lack of progress and emotionally and physically exhausted); continue attentive monitoring of maternal and fetal condition; have crossed alert line; blood-stained amniotic fluid

• Decision to perform caesarean section: Correct because fetal condition deteriorating, failure to progress despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds, acetone in urine, rising maternal pulse

• Problems expected in newborn: asphyxia, meconium aspiration

Q: What is the final diagnosis?

Q: What action was indicated at 14.00, and why?

Q: What action was indicated at 15.00, and why?

Q: At 17.00, a decision was taken to do a cesarean section, and this was rapidly done. Was this a correct action?

Q: What problems may be expected in the newborn?
**SKILLS PRACTICE SESSION: NORMAL BIRTH WITH NEWBORN CARE, ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR, BIRTH ASSISTED WITH A VACUUM EXTRACTOR, BREECH BIRTH, EPISIOTOMY AND REPAIR, AND NEWBORN ASSESSMENT**

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice use of Active Management of the Third Stage of Labor (AMTSL), episiotomy and repair of an episiotomy or laceration, and normal newborn care as a part of Assisting Normal Birth¹ and to achieve competency in the skills required. | This activity should be conducted in a simulated setting. (Most faculty will already be skilled in normal care, so this practice is to ensure that new evidence-based practices are incorporated into teaching and practice.) | - Childbirth simulator with baby and placenta  
- Vacuum extractor  
- Pieces of foam for episiotomy and repair  
- Syringes and vial  
- High-level disinfected or surgical gloves  
- Personal protective barriers  
- Delivery kit/pack  
- Episiotomy/Laceration Repair kit/pack  
- 0.5% chlorine solution and receptacle for decontamination  
- Leak-proof container or plastic bag |
| Learners should review Learning Guides for: Assisting a Normal Birth, Active Management of Third Stage of Labor, Episiotomy and Repair, Breech Birth, and Newborn Assessment before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. Under the guidance of the facilitator/teacher, learners should then work in pairs and practice the steps/tasks in each individual Learning Guide and observe each other’s performance; while one learner performs the skill, the second learner should use the relevant section of each Learning Guide to observe performance. Learners should then reverse roles. | Learning Guides: Assisting at Normal Birth, Active Management of the Third Stage of Labor, Breech Birth, Episiotomy and Repair, Newborn Assessment |
| Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting. A number of skills are incorporated into the Assisting at Normal Birth checklist. | Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting. A number of skills are incorporated into the Assisting at Normal Birth checklist. | Checklists: Assisting at Normal Birth, Active Management of the Third Stage of Labor, Breech Birth, Episiotomy and Repair, Newborn Assessment |

¹ Since the mother and baby are a dyad/unit, normal newborn care is incorporated into care at normal birth.
LEARNING GUIDE: ASSISTING NORMAL BIRTH
(Including Care of the Normal Newborn)
(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

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Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

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### LEARNING GUIDE FOR ASSISTING NORMAL BIRTH
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Encourage the woman to adopt the position of choice and continue spontaneous bearing-down efforts.</td>
<td></td>
</tr>
<tr>
<td>3. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>5. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
<td></td>
</tr>
<tr>
<td>4. Place one sterile drape from delivery pack under the woman’s buttocks, one over her abdomen, and use the third drape to receive the baby.</td>
<td></td>
</tr>
<tr>
<td><strong>Birth of the Head</strong></td>
<td></td>
</tr>
<tr>
<td>5. Ask the woman to pant or give only small pushes with contractions as the baby’s head is born. (Put blanket or towel on woman’s abdomen.)</td>
<td></td>
</tr>
<tr>
<td>6. As the pressure of the head thins out the perineum, control the birth of the head with the fingers of one hand, applying a firm, gentle downward (but not restrictive) pressure to maintain flexion, allow natural stretching of the perineal tissue, and prevent tears.</td>
<td></td>
</tr>
<tr>
<td>7. Use the other hand to support the perineum using a compress or cloth, and allow the head to crown slowly and be born spontaneously.</td>
<td></td>
</tr>
<tr>
<td>8. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose with a clean cloth.</td>
<td></td>
</tr>
</tbody>
</table>
### LEARNING GUIDE FOR ASSISTING NORMAL BIRTH
*(Some of the following steps/tasks should be performed simultaneously.)*

<table>
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<tr>
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<tbody>
<tr>
<td>9. Feel around the baby’s neck to ensure the umbilical cord is not around the neck:</td>
<td></td>
</tr>
<tr>
<td>• If the cord is around the neck but is loose, slip it over the baby’s head;</td>
<td></td>
</tr>
<tr>
<td>• If the cord is loose but cannot reach over the baby’s head, slip it backwards over the shoulders;</td>
<td></td>
</tr>
<tr>
<td>• If the cord is tight around the neck, clamp the cord with two artery forceps, placed 3 cm apart, and cut the cord between the two clamps.</td>
<td></td>
</tr>
</tbody>
</table>

#### Completing the Birth

10. Allow the baby’s head to turn spontaneously.

11. After the head turns, place a hand on each side of the baby’s head, over the ears, and apply slow, gentle pressure downward (toward the mother’s spine) and outward until the anterior shoulder slips under the pubic bone.

12. When the arm fold is seen, guide the head upward toward the mother’s abdomen as the posterior shoulder is born over the perineum.

13. Lift the baby’s head anteriorly to deliver the posterior shoulder.

14. Move the topmost hand from the head to support the rest of the baby’s body as it slides out.

15. Place the baby on the mother’s abdomen (if the mother is unable to hold the baby, ask her birth companion or an assistant to care for the baby).

16. Thoroughly dry the baby and cover with a clean, dry cloth:  
   • Assess breathing while drying the baby and if s/he does not breathe immediately, begin resuscitative measures (see Learning Guide: Newborn Resuscitation).  
   • Note time of birth.

17. Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest, and cover the baby with a cloth or blanket, including the head.

18. Palpate the mother’s abdomen to rule out the presence of additional baby(ies) and proceed with active management of the third stage.

### ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR

1. Give oxytocin 10 units IM.

2. Clamp and cut the umbilical cord after pulsations have ceased or approximately 2–3 minutes after the birth, whichever comes first:  
   • Tie the cord at about 3 cm and 5 cm from the umbilicus;  
   • Cut the cord between the ties.  
   • Place the infant on the mother’s chest.

3. Clamp the cord close to the perineum and hold the clamped cord and the end of the clamp in one hand.

4. Place the other hand just above the pubic bone and gently apply counter traction (push upwards on the uterus) to stabilize the uterus and prevent uterine inversion.

5. Keep light tension on the cord and wait for a strong uterine contraction (two to three minutes).

6. When the uterus becomes rounded or the cord lengthens, very gently pull downward on the cord to deliver the placenta.
### Learning Guide for Assisting Normal Birth

(Loan of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>7.  Continue to apply counter traction with the other hand.</td>
<td></td>
</tr>
<tr>
<td>8.  If the placenta does not descend during 30 to 40 seconds of controlled cord traction, relax the tension and repeat with the next contraction.</td>
<td></td>
</tr>
</tbody>
</table>
| 9.  As the placenta delivers, hold it with both hands and twist slowly so the membranes are expelled intact:  
   - If the membranes do not slip out spontaneously, gently twist them into a rope and move up and down to assist separation without tearing them. |       |
| 10. Slowly pull to complete delivery.                                    |       |
| 11. Massage the uterus if it is not well contracted. Note time of delivery of placenta. |       |

#### Examination of Placenta

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Hold placenta in palms of hands, with maternal side facing upwards, and check whether all lobules are present and fit together.</td>
<td></td>
</tr>
</tbody>
</table>
| 13. Hold cord with one hand and allow placenta and membranes to hang down:  
   - Insert fingers of other hand inside membranes, with fingers spread out, and inspect membranes for completeness;  
   - Note position of cord insertion. |       |

#### Examination of Vagina and Perineum for Tears

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Gently separate the labia and inspect lower vagina for lacerations/tears.</td>
<td></td>
</tr>
<tr>
<td>15. Inspect the perineum for lacerations/tears.</td>
<td></td>
</tr>
<tr>
<td>16. Gently cleanse the perineum with warm water and a clean cloth.</td>
<td></td>
</tr>
<tr>
<td>17. Apply a clean pad or cloth to the vulva.</td>
<td></td>
</tr>
<tr>
<td>18. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.)</td>
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#### Post-Procedure Tasks

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<thead>
<tr>
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<tbody>
<tr>
<td>1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
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</tbody>
</table>
| 3. Decontaminate needles and or syringes:  
   - If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;  
   - If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination. |       |
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<tr>
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</table>
| 4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:  
• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;  
• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
# CHECKLIST: ASSISTING NORMAL BIRTH
*(Including Care of the Normal Newborn)*
*(To be used by the Facilitator/Teacher at the end of the module)*

Place a “✓” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

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<tr>
<th>Participant __________________________________</th>
<th>Date Observed ____________________</th>
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## CHECKLIST FOR ASSISTING NORMAL BIRTH
*(Some of the following steps/tasks should be performed simultaneously.)*

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<td>2. Encourage the woman to adopt the position of choice and continue spontaneous bearing down efforts.</td>
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<td>3. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
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<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
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</tr>
<tr>
<td>5. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>SKILL/ACTIVITY PERFORMED SATISFACTORILY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly, put on high-level disinfected or sterile surgical gloves, and place drapes from the delivery pack on the woman.</td>
<td></td>
</tr>
<tr>
<td>2. Clean the woman’s perineum, and ask her to pant or give only small pushes with contractions.</td>
<td></td>
</tr>
<tr>
<td>3. Control the birth of the head with the fingers of one hand to maintain flexion, allow natural stretching of the perineal tissue, and prevent tears, and use the other hand to support the perineum.</td>
<td></td>
</tr>
<tr>
<td>4. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose.</td>
<td></td>
</tr>
<tr>
<td>5. Feel around the baby’s neck for the cord and respond appropriately if the cord is present.</td>
<td></td>
</tr>
<tr>
<td>6. Allow the baby’s head to turn spontaneously and, with the hands on either side of the baby’s head, deliver the anterior shoulder.</td>
<td></td>
</tr>
<tr>
<td>7. When the arm fold is seen, guide the head upward as the posterior shoulder is born over the perineum and lift the baby’s head anteriorly to deliver the posterior shoulder</td>
<td></td>
</tr>
<tr>
<td>8. Support the rest of the baby’s body with one hand as it slides out, and place the baby on the mother’s abdomen.</td>
<td></td>
</tr>
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</table>
## CHECKLIST FOR ASSISTING NORMAL BIRTH
(Some of the following steps/tasks should be performed simultaneously.)

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<tbody>
<tr>
<td>9.</td>
<td>Thoroughly dry the baby and cover with a clean, dry cloth, and assess breathing. If baby does not breathe immediately, begin resuscitative measures (see Checklist 7: Newborn Resuscitation).</td>
</tr>
<tr>
<td>10.</td>
<td>Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest. Note time of birth.</td>
</tr>
<tr>
<td>11.</td>
<td>Palpate the mother’s abdomen to rule out the presence of additional baby(ies) and proceed with active management of the third stage.</td>
</tr>
</tbody>
</table>

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

#### ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR

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<tbody>
<tr>
<td>1.</td>
<td>If no additional baby, give oxytocin 10 units IM within 1 minute of birth.</td>
</tr>
<tr>
<td>2.</td>
<td>Clamp and cut the cord approximately 3 minutes after birth.</td>
</tr>
<tr>
<td>3.</td>
<td>Wait for a uterine contraction.</td>
</tr>
<tr>
<td>4.</td>
<td>With hand above public bone, apply pressure in an upward direction (towards the woman’s head) to apply counter traction and stabilize the uterus.</td>
</tr>
<tr>
<td>5.</td>
<td>At the same time with the other hand, pull with a firm, steady tension on the cord in a downward direction (follow direction of the birth canal.)</td>
</tr>
<tr>
<td>6.</td>
<td>Deliver placenta slowly with both hands, gently turning the entire placenta and lifting it up and down until membranes deliver.</td>
</tr>
<tr>
<td>7.</td>
<td>Immediately after placenta delivers, massage uterus until firm. Note time of delivery of placenta.</td>
</tr>
<tr>
<td>8.</td>
<td>Examine the placenta, membranes and cord.</td>
</tr>
<tr>
<td>9.</td>
<td>Inspect the vulva, perineum and vagina for lacerations/tears and carry out appropriate repair as needed.</td>
</tr>
<tr>
<td>10.</td>
<td>Cleanse perineum and apply a pad or cloth to vulva.</td>
</tr>
<tr>
<td>11.</td>
<td>Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.)</td>
</tr>
<tr>
<td>12.</td>
<td>Massage uterus and check amount of bleeding every 15 minutes (more often if needed) for 2 hours, making sure the uterus does not get soft after you stop massaging.</td>
</tr>
</tbody>
</table>

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

#### POST-PROCEDURE TASKS

<table>
<thead>
<tr>
<th>Step</th>
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<td>1.</td>
<td>Dispose of contaminated items in a plastic bag or leak-proof, covered waste container.</td>
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<tr>
<td>2.</td>
<td>Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.</td>
</tr>
</tbody>
</table>
| 3.   | Decontaminate needles and or syringes:  
  - If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;  
  - If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination. |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
</tr>
<tr>
<td></td>
<td>• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;</td>
</tr>
<tr>
<td></td>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 20 minutes for decontamination.</td>
</tr>
<tr>
<td>5.</td>
<td>Wash hands thoroughly.</td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
LEARNING GUIDE: ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR
(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

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<table>
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<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ensure that items necessary to perform active management of the third stage of labor were adequately prepared before the birth and ready to use.</td>
<td></td>
</tr>
<tr>
<td>2. Ask the woman to empty her bladder when second stage is near (catheterize only if woman cannot urinate and bladder is full).</td>
<td></td>
</tr>
<tr>
<td>3. Assist the woman into the position of her choice (squatting, semi-sitting).</td>
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</tr>
<tr>
<td>4. Explain to the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
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</tr>
<tr>
<td>5. After baby is born, dry from head to toe with a warm, clean cloth.</td>
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</tr>
<tr>
<td>6. Assess breathing while drying. If baby is not breathing, begin resuscitation.</td>
<td></td>
</tr>
<tr>
<td>7. If baby is breathing, put in skin-to-skin contact on mother’s abdomen and cover with clean, dry, warm cloth.</td>
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</tr>
<tr>
<td>8. Provide continual emotional support and reassurance.</td>
<td></td>
</tr>
<tr>
<td><strong>DELIVERING THE PLACENTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Palpate the mother’s abdomen to rule out the presence of another baby.</td>
<td></td>
</tr>
<tr>
<td>2. If no other baby, give 10 IU of oxytocin IM within 1 minute of birth.</td>
<td></td>
</tr>
<tr>
<td>3. Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after birth of the baby, whichever comes first.</td>
<td></td>
</tr>
<tr>
<td>4. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth.</td>
<td></td>
</tr>
<tr>
<td>5. Hold cord close to the perineum, with hand or clamp.</td>
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</tr>
<tr>
<td>6. Wait for the uterus to contract.</td>
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<tr>
<td>7. Use one hand to grasp the cord clamp.</td>
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<tr>
<td>8. Place the other hand just above the pubic bone, on top of the drape covering the woman’s abdomen, with the palm facing toward the mother’s umbilicus and gently apply counter-traction in an upward direction (towards the woman’s head).</td>
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</tr>
<tr>
<td>STEP/TASK</td>
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<tr>
<td>9. At the same time while the uterus is contracted, firmly apply traction to the cord, in a downward direction, using the hand that is grasping the clamp. (Follow direction of the birth canal.)</td>
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<tr>
<td>10. Apply tension by pulling the cord firmly and maintaining pressure (jerky movements and force must be avoided).</td>
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</tr>
<tr>
<td>11. If the maneuver is not successful within 30–40 seconds, stop cord traction, wait for the next contraction and repeat.</td>
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</tr>
<tr>
<td>12. When the placenta is visible at the vaginal opening, hold it in both hands.</td>
<td></td>
</tr>
<tr>
<td>13. Use a gentle upward and downward movement or twisting action to slowly deliver the membranes. (If the membranes tear: 1) look for membranes in upper vagina and cervix, 2) use forceps to clamp on membranes, 3) twist membranes and delivery slowly.)</td>
<td></td>
</tr>
<tr>
<td>14. Hold the placenta in the palms of the hands, with the maternal side facing upward.</td>
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</tr>
<tr>
<td>15. Immediately and gently massage the uterus through the woman’s abdomen until it is well contracted and no excessive bleeding is coming from the vagina.</td>
<td></td>
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</tbody>
</table>

**POST-BIRTH TASKS**

<table>
<thead>
<tr>
<th>TASK</th>
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<tbody>
<tr>
<td>1. Teach the mother how the uterus should feel and how to massage it.</td>
<td></td>
</tr>
</tbody>
</table>
| 2. To check the placenta for completeness:  
  • Hold the placenta in the palms of the hands, with the maternal side facing upward;  
  • Make sure that all lobules are present and fit together; and  
  • Place the other hand inside the membranes, spreading fingers out, to make sure that the membranes are complete. |  |
| 3. Gently separate the labia and inspect the lower vagina and perineum for lacerations that may need to be repaired to prevent further blood loss. |  |
| 4. Gently cleanse the vulva and perineum with warm water and a clean compress, and apply a clean pad/cloth to the vulva. |  |
| 5. Assist the mother into a comfortable position for breastfeeding and bonding with baby. |  |
| 6. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag and dispose of the placenta by incineration (or place in a leak-proof container for burial), after consulting with the woman about cultural practices. |  |
| 7. Place all instruments in 0.5% chlorine solution for 10 minutes for decontamination. |  |
| 8. Decontaminate or dispose of needle or syringe:  
  • If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.  
  • If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container. |  |
<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</table>
| 9. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out.  
  • If disposing of gloves, place them in a leak-proof container or plastic bag.  
  • If re-using surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 10. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry. |       |
| 11. Record all findings on woman’s record.                               |       |
| 12. During the first 2 hours after delivery of the placenta, monitor the women every 15 minutes:  
  • Measure her vital signs.  
  • Massage her uterus to make sure it is contracted.  
  • Check for excessive vaginal bleeding. |       |
CHECKLIST: ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR
(To be used by the Facilitator/Teacher at the end of the module)

<table>
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<tr>
<th>STEP/TASK</th>
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**GETTING READY**

1. Prepare oxytocin 10 units in a syringe before second stage.
2. Ask the woman to empty her bladder when second stage is near.
3. Assist the woman into the position of her choice (squatting, semi-sitting).
4. Explain to the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.
5. After baby is born, dry from head to toe with a warm, clean cloth.
6. Assess breathing while drying and resuscitate if necessary.
7. If baby is breathing, put in skin-to-skin contact on mother’s abdomen and cover with clean, dry, warm cloth.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**DELIVERING THE PLACENTA**

1. Feel the mother’s abdomen to make sure there is no other baby.
2. If no other baby, give 10 IU of oxytocin IM within 1 minute of birth.
3. Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after birth of the baby, whichever comes first.
4. Hold cord close to the perineum, with hand or clamp.
5. Place the other hand just above the woman’s pubic bone.
6. Wait for a uterine contraction.
7. With the hand above the pubic bone, apply pressure on uterus in an upward direction (toward the woman’s head).
8. At the same time, with the other hand, pull with a firm, steady tension on the cord in a downward direction (below direction of the birth canal).
9. If placenta does not descend, release tension on the cord (still holding cord) and wait for next contraction.
10. Repeat controlled cord traction as in Steps 7 and 8 above.
## CHECKLIST FOR ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR
(Many of the following steps/tasks should be performed simultaneously.)

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<td>11. Deliver placenta slowly with both hands.</td>
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</tr>
<tr>
<td>12. Deliver membranes by gently turning the entire placenta so membranes twist. Move membranes up and down until they deliver.</td>
<td></td>
</tr>
<tr>
<td>13. If membranes tear: 1) look for membranes at upper vagina and cervix; 2) use forceps to clamp on membranes; 3) twist membranes and deliver slowly.</td>
<td></td>
</tr>
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</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### POST-BIRTH TASKS

1. Teach the mother how the uterus should feel and how to massage it.
2. Look at placenta and membranes to see if they are complete.
3. Gently inspect the vulva, perineum and vagina for laceration and carry out appropriate repair if necessary. Proceed with care of the woman.
4. Gently cleanse the vulva and perineum with warm water and a clean compress, and apply a clean pad/cloth to the vulva.
5. Follow infection prevention guidelines for handling of contaminated equipment and supplies.
6. Massage uterus and check amount of vaginal bleeding every 15 minutes (more often if needed) for 2 hours.
7. Make sure uterus does not get soft after you stop massaging.
8. Continue with normal care for mother and newborn.
9. Record information.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**NOTE:** Step No. 3 under “Delivering the Placenta”: Clamp and cut the cord approximately 3 minutes after baby’s birth. If no clock or watch, or no light to see a watch, wait for pulsation to stop. Three (3) minutes gives the baby the fullest possible benefit for placental transfusion.
LEARNING GUIDE: ASSISTING A BREECH BIRTH
(To be used by Participants)

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<td><strong>GETTING READY</strong></td>
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</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
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</tr>
<tr>
<td>2. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>3. Ensure that conditions for breech delivery (complete or frank, adequate size pelvis for this fetus, no previous C-section or CPD, flexed head) are present.</td>
<td></td>
</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>5. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
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<tr>
<td>3. Place one sterile drape from delivery pack under the woman’s buttocks, one over her abdomen, and use the third drape to receive the baby.</td>
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</tr>
<tr>
<td>4. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
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<tr>
<td>5. Place clean drape beneath woman’s hips.</td>
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</tr>
<tr>
<td>6. Catheterize the bladder if necessary.</td>
<td></td>
</tr>
<tr>
<td>7. When the buttocks have entered the vagina and the cervix is fully dilated, tell the woman she can bear down with contractions. Do episiotomy if necessary.</td>
<td></td>
</tr>
<tr>
<td>8. As the perineum distends, decide whether an episiotomy is necessary (e.g., if perineum is very tight). If needed, provide infiltration with lignocaine and perform an episiotomy.</td>
<td></td>
</tr>
<tr>
<td>9. Let the buttocks deliver until the lower back and then the shoulder blades are seen.</td>
<td></td>
</tr>
<tr>
<td>10. Gently hold the buttocks in one hand, but do not pull.</td>
<td></td>
</tr>
<tr>
<td>11. If the legs do not deliver spontaneously, deliver one leg at a time:</td>
<td></td>
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<tr>
<td>• Push behind the knee to bend the leg.</td>
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</tr>
<tr>
<td>• Grasp the ankle and deliver the foot and leg.</td>
<td></td>
</tr>
<tr>
<td>• Repeat for the other leg.</td>
<td></td>
</tr>
</tbody>
</table>
LEARNING GUIDE FOR ASSISTING A BREECH BIRTH
(Some of the following steps/tasks should be performed simultaneously.)

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<tr>
<td>12. Hold the newborn by the hips, but do not pull.</td>
<td></td>
</tr>
</tbody>
</table>
| 13. If the arms are felt on the chest, allow them to disengage spontaneously:  
  - After spontaneous delivery of the first arm, lift the buttocks towards the mother’s abdomen to enable the second arm to deliver spontaneously.  
  - If the arm does not deliver spontaneously, place one or two fingers in the elbow and bend the arm, bringing the hand down over the newborn’s face. | |
| 14. If the arms are stretched above the head or folded around the neck, use Loveset’s maneuver:  
  - Hold the newborn by the hips and turn half a circle, keeping the back uppermost.  
  - Apply downward traction at the same time so that the posterior arm becomes anterior, and deliver the arm under the pubic arch by placing one or two fingers on the upper part of the arm.  
  - Draw the arm down over the chest as the elbow is flexed, with the hand sweeping over the face.  
  - To deliver the second arm, turn the newborn back half a circle while keeping the back uppermost and applying downward traction to deliver the second arm in the same way under the pubic arch. | |
| 15. If the newborn’s body cannot be turned to deliver the arm that is anterior first, deliver the arm that is posterior:  
  - Hold and lift the newborn up by the ankles.  
  - Move the newborn’s chest towards the mother’s inner leg to deliver the posterior arm.  
  - Deliver the arm and hand.  
  - Lay the newborn down by the ankles to deliver the anterior shoulder.  
  - Deliver the arm and hand. | |
| 16. Deliver the head by the Mauriceau Smellie Veit maneuver:  
  - Lay the newborn face down with the length of its body over your hand and arm.  
  - Place first and third fingers of this hand on the newborn’s cheekbones.  
  - Place second finger in the newborn’s mouth to pull the jaw down and flex the head.  
  - Use the other hand to grasp the newborn’s shoulders.  
  - With two fingers of this hand, gently flex the newborn’s head toward the chest  
  - At the same time apply downward pressure on the jaw to bring the newborn’s head down until the hairline is visible.  
  - Pull gently to deliver the head.  
  - Ask an assistant to push gently above the mother’s pubic bone as the head delivers.  
  - Raise the newborn, still astride the arm, until the mouth and nose are free. | |
| 17. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose with a clean cloth. | |
| 18. Place the baby in skin-to-skin contact on the abdomen of the mother, dry the baby, assess the baby’s breathing and perform resuscitation if needed. | |
| 19. Administer a uterotonic (the uterotonic of choice is oxytocin 10 IU IM) immediately after birth of the baby, and after ruling out the presence of another baby. | |
### LEARNING GUIDE FOR ASSISTING A BREECH BIRTH
(All of the following steps/tasks should be performed simultaneously.)

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<td>20. Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after the birth of the baby, whichever comes first.</td>
<td></td>
</tr>
<tr>
<td>21. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth.</td>
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</tr>
<tr>
<td>23. Perform controlled cord traction.</td>
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<tr>
<td>24. Massage uterus until contracted.</td>
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</tbody>
</table>
| 25. Examine the placenta:  
  - Hold placenta in palm of hands, with maternal side facing upwards, and check whether all lobules are present and fit together.  
  - Hold cord with one hand and allow placenta and membranes to hang down.  
  - Insert fingers of other hand inside membranes, with fingers spread out, and inspect membranes for completeness. |       |
| 26. Check the birth canal for tears and repair if necessary. |       |
| 27. Repair episiotomy if necessary. |       |
| 28. Gently cleanse the perineum with warm water and a clean cloth. |       |
| 29. Apply a clean pad or cloth to the vulva. |       |
| 30. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.) |       |

### POST-PROCEDURE TASKS

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tr>
<td>1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
</tbody>
</table>
| 3. Decontaminate needles and or syringes:  
  - If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;  
  - If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination. |       |
| 4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:  
  - If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;  
  - If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
CHECKLIST: ASSISTING A BREECH BIRTH
(To be used by the Facilitator/Teacher at the end of the module)

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| Participant ___________________________ | Date Observed __________________ |

### CHECKLIST FOR ASSISTING A BREECH BIRTH
(Some of the following steps/tasks should be performed simultaneously.)

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<td>2. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
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<tr>
<td>3. Ensure that conditions for breech delivery (complete or frank, adequate size pelvis for this fetus, no previous C-section or CPD, flexed head) are present.</td>
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<td>4. Provide continual emotional support and reassurance, as feasible.</td>
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<td>5. Put on personal protective barriers.</td>
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<tr>
<td>6. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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<td>7. Put high-level disinfected or sterile surgical gloves on both hands.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORYLY

#### ASSISTING THE BIRTH

<table>
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<th>STEP/TASK</th>
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<tr>
<td>1. Clean the woman’s perineum.</td>
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<td>2. Catheterize the bladder if necessary.</td>
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<tr>
<td>3. When the buttocks have entered the vagina and the cervix is fully dilated, tell the woman she can bear down with contractions.</td>
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<td>4. Let the buttocks deliver until the lower back and then the shoulder blades are seen.</td>
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<td>5. Gently hold the buttocks in one hand, but do not pull.</td>
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<td>6. If the legs do not deliver spontaneously, deliver one leg at a time.</td>
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<td>7. Hold the newborn by the hips, but do not pull.</td>
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<td>8. If the arms are felt on the chest, allow them to disengage spontaneously.</td>
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<td>9. If the arms are stretched above the head or folded around the neck, use Loveset’s maneuver.</td>
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<td>10. If the newborn’s body cannot be turned to deliver the arm that is anterior first, deliver the arm that is posterior.</td>
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<td>11. Deliver the head by the Mauriceau Smellie Veit maneuver.</td>
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<td>13. Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after the birth of the baby, whichever comes first.</td>
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<td>14. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth.</td>
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<tr>
<td>15. Perform controlled cord traction.</td>
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<tr>
<td>17. Check placenta for completeness.</td>
<td></td>
</tr>
<tr>
<td>18. Check the birth canal for tears and repair tears or episiotomy, if necessary.</td>
<td></td>
</tr>
<tr>
<td>19. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORYLY**

**POST-PROCEDURE TASKS**

1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.

2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.

3. Decontaminate needles and or syringes:

4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:

5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.

**SKILL/ACTIVITY PERFORMED SATISFACTORYLY**
**LEARNING GUIDE: EPISIOTOMY AND REPAIR**
*(To be used by Participants)*

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</tr>
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<tbody>
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<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>3. Listen to what the woman has to say.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the woman has no allergies to lignocaine or related drugs.</td>
<td></td>
</tr>
<tr>
<td>5. Provide emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td><strong>ADMINISTERING LOCAL ANESTHETIC</strong></td>
<td></td>
</tr>
<tr>
<td>1. Cleanse perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>2. Draw 10 mL of 0.5% lignocaine into a syringe.</td>
<td></td>
</tr>
<tr>
<td>3. Place two fingers into vagina along proposed incision line.</td>
<td></td>
</tr>
<tr>
<td>4. Insert needle beneath skin for 4–5 cm following same line (preferably 1 ½&quot;, 22-gauge).</td>
<td></td>
</tr>
<tr>
<td>5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>6. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle.</td>
<td></td>
</tr>
<tr>
<td>7. Wait 2 minutes and then pinch incision site with forceps.</td>
<td></td>
</tr>
<tr>
<td>8. If the woman feels the pinch, wait 2 more minutes and then retest.</td>
<td></td>
</tr>
<tr>
<td><strong>MAKING THE EPISIOTOMY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wait to perform episiotomy until: Perineum is thinned out</td>
<td></td>
</tr>
<tr>
<td>2. Place two fingers between the baby's head and the perineum.</td>
<td></td>
</tr>
<tr>
<td>3. Insert open blade of scissors between perineum and two fingers and cut mediolaterally the perineum and posterior vagina</td>
<td></td>
</tr>
<tr>
<td>4. If birth of head does not follow immediately, apply pressure to episiotomy site between contractions, using a piece of gauze, to minimize bleeding.</td>
<td></td>
</tr>
<tr>
<td>5. Control birth of head and shoulders to avoid extension of the episiotomy.</td>
<td></td>
</tr>
</tbody>
</table>
**LEARNING GUIDE FOR EPISIOTOMY AND REPAIR**
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
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<tbody>
<tr>
<td><strong>REPAIRING THE EPISIOTOMY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available).</td>
<td></td>
</tr>
<tr>
<td>2. Ask an assistant to direct a strong light onto the woman’s perineum.</td>
<td></td>
</tr>
<tr>
<td>3. Apply antiseptic solution to area around episiotomy.</td>
<td></td>
</tr>
<tr>
<td>4. Using 2/0 or 3/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy.</td>
<td></td>
</tr>
<tr>
<td>5. Use a continuous suture from apex downward to level of vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>6. At opening of vagina, bring together cut edges.</td>
<td></td>
</tr>
<tr>
<td>7. Bring needle under vaginal opening and out through incision and tie.</td>
<td></td>
</tr>
<tr>
<td>8. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
<td></td>
</tr>
<tr>
<td>9. Use interrupted or subcuticular sutures to bring skin edges together.</td>
<td></td>
</tr>
<tr>
<td>10. Wash perineal area with antiseptic, pat dry, and place a sterile sanitary pad over the vulva and perineum.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Dispose of waste materials (e.g. blood-contaminated swabs) in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>3. Decontaminate or dispose of syringe and needle:</td>
<td></td>
</tr>
<tr>
<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: EPISIOTOMY AND REPAIR
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✔” in case box if step/task is performed satisfactorily, an “✗” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>Participant</th>
<th>Date Observed</th>
</tr>
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<tr>
<th>CHECKLIST FOR EPISIOTOMY AND REPAIR</th>
<th></th>
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<td>3. Listen to what the woman has to say.</td>
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<thead>
<tr>
<th>MAKING THE EPISIOTOMY</th>
<th></th>
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<tbody>
<tr>
<td>1. Clean perineum with antiseptic solution.</td>
<td>✔</td>
</tr>
<tr>
<td>2. Administer local anesthesia.</td>
<td>✔</td>
</tr>
<tr>
<td>3. Wait to perform episiotomy until the perineum is thinned out and the baby’s head is visible during a contraction.</td>
<td>✔</td>
</tr>
<tr>
<td>4. Insert two fingers into the vagina between the baby’s head and the perineum.</td>
<td>✔</td>
</tr>
<tr>
<td>5. Insert the open blade of the scissors between the perineum and the fingers and make a cut in a mediolateral direction.</td>
<td>✔</td>
</tr>
<tr>
<td>6. Control birth of the head to avoid extension of the episiotomy.</td>
<td>✔</td>
</tr>
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</table>

<table>
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<tr>
<th>REPAIRING THE EPISIOTOMY</th>
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<tr>
<td>1. Apply antiseptic solution to area around episiotomy.</td>
<td>✔</td>
</tr>
<tr>
<td>2. Use a continuous suture from apex downward to repair vaginal incision.</td>
<td>✔</td>
</tr>
<tr>
<td>3. At the level of vaginal opening, bring cut edges together.</td>
<td>✔</td>
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<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>7. Wash perineal area and cover with a sterile sanitary napkin.</td>
<td></td>
</tr>
<tr>
<td><strong>SKILL/ACTIVITY PERFORMED SATISFACTORILY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
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<tr>
<td>1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>2. Place all instruments in 0.5% chlorine solution for decontamination.</td>
<td></td>
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<tr>
<td>3. If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for decontamination. If disposing of needle and syringe, place in puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Remove gloves and discard them in a leak-proof container or plastic bag if disposing of or decontaminate them in 0.5% chlorine solution if reusing.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly.</td>
<td></td>
</tr>
<tr>
<td><strong>SKILL/ACTIVITY PERFORMED SATISFACTORILY</strong></td>
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</tbody>
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KNOWLEDGE ASSESSMENT: LABOR AND CHILDBIRTH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. If a woman is admitted during the first stage/active phase of labor, cervical dilatation is plotted on the partograph:
   a. To the left of the alert line
   b. To the right of the alert line
   c. On the alert line
   d. On the action line

2. Elements that need to be included in a birth preparedness/complication readiness plan include:
   a. Skilled attendant and place of birth
   b. Funds and transportation in case of an emergency
   c. Danger signs and potential blood donors
   d. a) and b)
   e. All of the above

3. Before applying controlled cord traction during active management of the third stage of labor:
   a. Oxytocin is administered intramuscularly and the birth attendant waits for the uterus to contract:
   b. The mother is asked to push
   c. Pressure is applied to the fundus
   d. All of the above

4. During active management of the third stage of labor:
   a. Begin controlled cord traction 3 minutes after administration of oxytocin
   b. Clamp and cut the cord as soon as possible after the birth of the baby
   c. The uterus should be massaged to keep the uterus contracted
   d. all of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The benefits of a policy of routine episiotomy for primigravid women outweigh the disadvantages since many primigravidas sustain lacerations.  
   ____

6. The highest risk of hemorrhage occurs during the second stage of labor.  
   ____

7. Active management of the third stage of labor is routine only for those women who are at increased risk of a postpartum hemorrhage.  
   ____

8. The use of non-invasive, non-pharmacological methods of pain relief during labor (massage, relaxation techniques, etc.) has been shown to be associated with use of less analgesia, fewer operative vaginal births and less postpartum depression.  
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**KNOWLEDGE ASSESSMENT: LABOR AND CHILDBIRTH:—
ANSWER KEY**

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**Instructions:** In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The benefits of a policy of routine episiotomy for primigravid women outweigh the disadvantages since many primigravidas sustain lacerations. **FALSE**

6. The highest risk of hemorrhage occurs during the second stage of labor. **FALSE**

7. Active management of the third stage of labor is routine only for those women who are at increased risk of a postpartum hemorrhage. **FALSE**

8. The use of non-invasive, non-pharmacological methods of pain relief during labor (massage, relaxation techniques, etc.) has been shown to be associated with use of less analgesia, fewer operative vaginal births and less postpartum depression. **TRUE**
Best Practices in Care during Labor and Childbirth

Session Objectives
- To identify best practices for managing labor and childbirth:
  - Birth preparedness/complication readiness
  - Partograph
  - Active management of the third stage of labor
  - Restricted episiotomy
- To identify harmful practices with the goal of eliminating them from practice

Objectives of Care during Labor and Childbirth
- Protect the life of the mother and newborn
- Support the normal labor and detect and treat complications in timely fashion
- Support and respond to needs of the woman, her partner and family during labor and childbirth

Question ??
- At what time during pregnancy and childbirth do most deaths occur?
When is the mother most vulnerable? (Evidence from Matlab, Bangladesh)

Why do we need to be prepared for birth and complications?

- Acting quickly is important because a woman could die in a short period of time:
  - In antepartum hemorrhage, she can die in just 12 hours.
  - In postpartum hemorrhage, she can die in just 2 hours.
  - With complications of eclampsia, in as few as 12 hours, and
  - With sepsis, in about 3 days!

Question ??

- What are the elements that should be included in birth preparedness and complication readiness?

Delay is a significant factor in many maternal and newborn deaths and disabilities:
- Recognizing the problem
- Deciding to seek care
- Reaching and receiving care
- Birth preparedness and complication readiness to reduce delays
Birth Preparedness and Complication Readiness for the Woman and Family

- Plan place for delivery
- Choose provider
- Recognize danger signs
- Plan for managing complications
- Save money or access funds
- Arrange transportation
- Identify potential blood donors

Birth Preparedness and Complication Readiness for the Provider

- Diagnose and manage problems and complications appropriately and in a timely manner
- Arrange referral to higher level of care if needed
- Provide women-centered counseling about birth preparedness and complication readiness
- Educate community about birth preparedness and complication readiness

Complication Readiness for the Provider

- Recognize and respond to danger signs
- Be knowledgeable and skilled in managing complications
- Have emergency equipment, drugs and supplies in working order and ready to use

Partograph and Criteria for Active Labor

- Label with identifying info
- Note FHR, color of amniotic fluid, moulding, contraction pattern, medications given
- Plot cervical dilation
- Alert line starts at 4 cm—then, expect dilatation at rate of 1 cm/hour
- Action line: If labor does not progress as above, action is required
WHO Partograph Trial

- **Objectives:**
  - To evaluate impact of WHO partograph on labor management and outcome
  - To devise and test protocol for labor management with partograph
- **Design:** Multicenter trial randomizing hospitals in Indonesia, Malaysia and Thailand
- No intervention in latent phase until after 8 hours
- At active phase action line, consider: oxytocin augmentation, cesarean section, or observation AND supportive treatment


WHO Partograph: Results of Study

<table>
<thead>
<tr>
<th>All Women</th>
<th>Before Implementation</th>
<th>After Implementation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deliveries</td>
<td>18254</td>
<td>17230</td>
<td>0.002</td>
</tr>
<tr>
<td>Labor &gt; 18 hours</td>
<td>6.4%</td>
<td>3.4%</td>
<td>0.002</td>
</tr>
<tr>
<td>Labor augmented</td>
<td>20.7%</td>
<td>9.1%</td>
<td>0.023</td>
</tr>
<tr>
<td>Postpartum sepsis</td>
<td>0.70%</td>
<td>0.21%</td>
<td>0.028</td>
</tr>
</tbody>
</table>

**Normal Women**

<table>
<thead>
<tr>
<th>Mode of delivery</th>
<th>Before Implementation</th>
<th>After Implementation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous cephalic</td>
<td>8428 (83.9%)</td>
<td>7869 (86.3%)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Forceps</td>
<td>341 (3.4%)</td>
<td>227 (2.5%)</td>
<td>0.005</td>
</tr>
</tbody>
</table>


Individual Work

- Complete partograph exercise(s)
- Review with reassembled group

What actions might you take in the event of obstructed labor?

- Cesarean section
- Episiotomy
- Assisted vaginal birth:
  - Using vacuum extractor
  - Using forceps
Restricted Use of Episiotomy: Objectives and Design

- Objective: To evaluate possible benefits, risks and costs of restricted use of episiotomy vs. routine episiotomy
- Design: Meta-analysis of six randomized control trials

Restricted Use of Episiotomy: Maternal Outcomes Assessed

- Severe vaginal/perineal trauma
- Need for suturing
- Posterior/anterior perineal trauma
- Perineal pain
- Dyspareunia
- Urinary incontinence
- Healing complications
- Perineal infection

Restricted Use of Episiotomy: Results of Cochrane Review

<table>
<thead>
<tr>
<th>Clinically Relevant Morbidities</th>
<th>Relative Risk</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posterior perineal trauma</td>
<td>0.88</td>
<td>0.84–0.92</td>
</tr>
<tr>
<td>Need for suturing</td>
<td>0.74</td>
<td>0.71–0.77</td>
</tr>
<tr>
<td>Healing complications at 7 days</td>
<td>0.69</td>
<td>0.56–0.85</td>
</tr>
<tr>
<td>Anterior perineal trauma</td>
<td>1.79</td>
<td>1.55–2.07</td>
</tr>
</tbody>
</table>

- No increase in incidence of major outcomes (e.g., severe vaginal or perineal trauma nor in pain, dyspareunia or urinary incontinence)
- Incidence of 3rd degree tear reduced (1.2% with episiotomy, 0.4% without)
- No controlled trials on controlled delivery or guarding the perineum to prevent trauma

Indicated Use of Episiotomy: Reviewers’ Conclusions

- Implications for practice: Clear evidence to restrict use of episiotomy in normal labor
- Implications for research: Further trials needed to assess use of episiotomy at:
  - Assisted delivery (forceps or vacuum)
  - Preterm delivery
  - Breech delivery
  - Predicted macrosomia
  - Presumed imminent tears (threatened 3rd degree tear or history of 3rd degree tear with previous delivery)

Clean Delivery

- Infection accounts for 11% of all maternal deaths
- Infection/pneumonia accounts for 26% of newborn deaths
- Tetanus accounts for 7% of newborn deaths
- These deaths can be largely avoided with infection prevention practices

Infection Prevention Practices

- Use disposable materials once and decontaminate reusable materials throughout labor and childbirth
- Wear gloves during vaginal examination, during birth of newborn and when handling placenta
- Wear protective clothing (shoes, apron, glasses)
- Wash hands
- Wash perineum with soap and water and keep it clean
- Ensure that surface on which newborn is delivered is kept clean
- High-level disinfect instruments, gauze and ties for cutting cord

Third Stage

- Time of greatest/most rapid physiologic change and highest risk of hemorrhage
- Uterus as a muscle, must contract to stop bleeding
- Placenta must separate from wall of uterus and be delivered

Best Practices: Third Stage of Labor

- Offer active management of third stage for ALL women:
  - Oxytocin administration
  - Controlled cord traction
  - Uterine massage after delivery of the placenta to keep the uterus contracted
- Routine examination of the placenta and membranes
- Routine examination of vagina and perineum for lacerations and injury

Question ??

How effective is active management of the third stage of labor at preventing postpartum hemorrhage?

ICM/FIGO Joint Statement on Active Management of the Third Stage of Labor (AMTSL)

- AMTSL has been proven to reduce the incidence of postpartum hemorrhage, reduce the quantity of blood loss and reduce the use of transfusion
- AMTSL should be offered to all women who are giving birth
- Every attendant at birth needs to have the knowledge, skills and critical judgment needed to carry out AMTSL

Best Practices: Labor and Childbirth

- Use non-invasive, non-pharmacological methods of pain relief during labor (massage, relaxation techniques, etc.):
  - Less use of analgesia OR 0.68 (CI 0.58–0.79)
  - Fewer operative vaginal deliveries OR 0.73 (95% CI 0.62–0.88)
  - Less postpartum depression at 6 weeks OR 0.12 (CI 0.04–0.33)
- Offer oral fluids throughout labor and childbirth

## Best Practices: Postpartum

### Mother
- Close monitoring and surveillance during first 6 hours postpartum:
  - Parameters:
    - Blood pressure, pulse, vaginal bleeding, uterine hardness
  - Timing:
    - Every 15 minutes for 2 hours
    - Every 30 minutes for 1 hour
    - Every hour for 3 hours

### Newborn
- Babies should begin breastfeeding as soon as possible after birth (preferably within the first hour)
- Colostrum should be given to the baby and not thrown away

## Position in Labor and Childbirth

### Allow freedom in position and movement throughout labor and childbirth
- Encourage any non-supine position:
  - Side lying
  - Squatting
  - Hands and knees
  - Semi-sitting
  - Sitting

### Position in Labor and Childbirth (cont.)

Use of upright or lateral position compared with supine or lithotomy position is associated with:
- Shorter second stage of labor (5.4 minutes, 95% CI 3.9–6.9)
- Fewer assisted deliveries (OR 0.82, CI 0.69–0.98)
- Fewer episiotomies (OR 0.73, CI 0.64–0.84)
- Fewer reports of severe pain (OR 0.59, CI 0.41–0.83)
- Less abnormal heart rate patterns for fetus (OR 0.31, CI 0.11–0.91)
- More perineal tears (OR 1.30, CI 1.09–1.54)
- Blood loss > 500 mL (OR 1.76, CI 1.34–3.32)

Source: Gupta and Nikodem 2000.

## Support of Woman

- Give woman as much information and explanation as she desires
- Provide care in labor and childbirth at a level where woman feels safe and confident
- Provide empathic support during labor and childbirth
- Facilitate good communication between caregivers, the woman and her companions
- Continuous empathetic and physical support is associated with shorter labor, less medication and epidural analgesia, and fewer operative deliveries

Presence of Female Relative during Labor: Results

RCT in Botswana: 53 women with relative; 56 without

<table>
<thead>
<tr>
<th>Labor Outcome</th>
<th>Experimental Group (%)</th>
<th>Control Group (%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous vaginal delivery</td>
<td>91</td>
<td>71</td>
<td>0.03</td>
</tr>
<tr>
<td>Vacuum delivery</td>
<td>4</td>
<td>16</td>
<td>0.03</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>6</td>
<td>13</td>
<td>0.03</td>
</tr>
<tr>
<td>Analgesia</td>
<td>53</td>
<td>73</td>
<td>0.03</td>
</tr>
<tr>
<td>Amniotomy</td>
<td>30</td>
<td>54</td>
<td>0.01</td>
</tr>
<tr>
<td>Oxytocin</td>
<td>13</td>
<td>30</td>
<td>0.03</td>
</tr>
</tbody>
</table>


Presence of Female Relative during Labor: Conclusion

Support from female relative improves labor outcomes


Harmful Routines

- Use of enema: uncomfortable, may damage bowel, does not change duration of labor, incidence of neonatal infection or perinatal wound infection
- Pubic shaving: discomfort with regrowth of hair, does not reduce infection, may increase transmission of HIV and hepatitis
- Lavage of the uterus after delivery: can cause infection, mechanical trauma or shock
- Manual exploration of the uterus after delivery


Harmful Practices

- Examinations:
  - Rectal examination: Similar incidence of puerperal infection, uncomfortable for woman
  - Routine use of x-ray pelvimetry: Increases incidence of childhood leukemia
- Position:
  - Routine use of supine position during labor
  - Routine use of lithotomy position with or without stirrups during labor

Harmful Interventions

- Administration of oxytocin at any time before delivery in such a way that the effect cannot be controlled
- Sustained, directed bearing down efforts during the second stage of labor
- Massaging and stretching the perineum during the second stage of labor (no evidence)
- Fundal pressure during labor


Inappropriate Practices

- Restriction of food and fluids during labor
- Routine intravenous infusion in labor
- Repeated or frequent vaginal examinations, especially by more than one caregiver
- Routinely moving laboring woman to a different room at onset of second stage
- Encouraging woman to push when full dilation or nearly full dilation of cervix has been diagnosed, before woman feels urge to bear down


Inappropriate Practices (cont.)

- Rigid adherence to a stipulated duration of the second stage of labor (e.g., 1 hour) if maternal and fetal conditions are good and there is progress of labor
- Liberal or routine use of episiotomy
- Liberal or routine use of amniotomy

Practices Used for Specific Clinical Indications

- Bladder catheterization
- Operative delivery
- Oxytocin augmentation
- Pain control with systemic agents
- Pain control with epidural analgesia
- Continuous electronic fetal monitoring
Normal Labor and Childbirth: Conclusion

- Have a skilled attendant present
- Use partograph
- Use specific criteria to diagnose active labor
- Restrict use of unnecessary interventions
- Use active management of third stage of labor
- Support woman’s choice for position during labor and childbirth
- Provide continuous emotional and physical support to woman throughout labor

Demonstrations

- Normal labor and birth including newborn care
- Active management of third stage of labor
- Use of vacuum extractor for assisting birth
- Episiotomy and repair
- Review of learning guides
- Demonstration by teacher/facilitator
- Practice by learners
- Return demonstration

References


References (cont.)


### SUPPLEMENTARY MODULE 9.1: BEST PRACTICES IN MANAGING LABOR USING THE PARTOGRAPH—SESSION PLAN

#### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Practices in Managing Labor Using the Partograph</td>
<td>120 min</td>
</tr>
</tbody>
</table>

**SESSION OBJECTIVES**

*NOTE: All of the content of this session is contained in *Best Practices in Labor and Childbirth*. Therefore, this session would not be taught if *Best Practices in Labor and Childbirth* has already been included.*

*By the end of this session, participants will be able to:*

- Discuss the importance of using a partograph
- Understand how to fill in a partograph
- Understand how to use a partograph in decision-making

#### Methods and Activities | Materials/Resources
--- | ---
Illustrated presentation/discussion: Best practices in managing labor using the partograph (30 min) | • Boxlight projector  
• PowerPoint presentation  
OR  
• Overhead projector with transparencies (Handouts of presentations if no electricity)
• Exercise below is inserted within the corresponding PowerPoint presentation.

- Use questions and discussion throughout presentation as indicated on slides.
- Be sure to include all of the following topical areas:
  - Usefulness of the partograph:
    - For assessing progress of labor
    - For assessing fetal well-being
    - For assessing maternal well-being
  - How to fill in the partograph
  - Alert and action lines
- Exercise: Use of partograph (90 min)
  - For first exercise, read each step of the Partograph Exercise to the class, and plot information on the poster-size partograph.
  - At same time, learners plot information on partograph form.
  - For second (and third, if time) exercise, read each step to class and have learners plot information on their own partograph form.
  - Answer questions as they arise. Observe individual learners to ensure they are plotting correctly.
  - Summarize key points of partograph plotting.
  - Facilitator/Teacher may also choose to use partographs taken from clinical records/experience and to use as few or as many as appropriate.

• Blank partograph forms  
• Copy (copies) of exercise
EXERCISE: USING THE PARTOGRAPH

PURPOSE

The purpose of this exercise is to enable learners to use the partograph to manage labor.

<table>
<thead>
<tr>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The facilitator/teacher should review the partograph form with learners before beginning the exercise.</td>
<td>The following equipment or representations thereof:</td>
</tr>
<tr>
<td></td>
<td>• Partograph forms (three for each learner)</td>
</tr>
<tr>
<td></td>
<td>• Poster-size laminated partograph</td>
</tr>
<tr>
<td></td>
<td>• Exercise: Using the Partograph Answer Key</td>
</tr>
</tbody>
</table>

Each learner should be given three blank partograph forms.

**Case 1**: The facilitator/teacher should read each step to the class, plot the information on the poster-size laminated partograph and ask the questions included in each of the steps. At the same time, learners should plot the information on one of their partograph forms.

**Case 2**: The facilitator/teacher should read each step to the class and have learners plot the information on another of their partograph forms. The questions included in each step should be asked as they arise.

**Case 3**: The facilitator/teacher should read each step to the class and have learners plot the information on the third of their partograph forms. The questions should then be asked when the partograph is completed.

Throughout the exercise, the facilitator/teacher should ensure that learners have completed their partograph forms correctly.

The facilitator/teacher should provide learners with the three completed partograph forms from the Answer Key and have them compare these with the partograph forms they have completed. The facilitator/teacher should discuss and resolve any differences between the partographs completed by learners and those in the Answer Key.
**USING THE MODIFIED WHO PARTOGRAPH**

The WHO partograph has been modified to make it simpler and easier to use. The latent phase has been removed and plotting on the partograph begins in the active phase when the cervix is 4 cm dilated. Record the following on the partograph:

**Patient information:** Fill out name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes or time elapsed since rupture of membranes (if rupture occurred before charting on the partograph began).

Fetal heart rate: Record every half hour.

**Amniotic fluid:** Record the color of amniotic fluid at every vaginal examination:
- I: membranes intact;
- R: membranes ruptured;
- C: membranes ruptured, clear fluid;
- M: meconium-stained fluid;
- B: blood-stained fluid.

**Moulding:**
- 1: sutures apposed;
- 2: sutures overlapped but reducible;
- 3: sutures overlapped and not reducible.

**Cervical dilatation:** Assessed at every vaginal examination and marked with a cross (X). Begin plotting on the partograph at 4 cm.

**Alert line:** A line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour.

**Action line:** Parallel and 4 hours to the right of the alert line.
Descent assessed by abdominal palpation: Refers to the part of the head (divided into five parts) palpable above the symphysis pubis; recorded as a circle (O) at every abdominal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.

**Hours**: Refers to the time elapsed since onset of active phase of labor (observed or extrapolated).

**Time**: Record actual time.

**Contractions**: Chart every half hour; count the number of contractions in a 10-minute time period, and their duration in seconds.

- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds:

**Oxytocin**: Record the amount of oxytocin per volume IV fluids in drops per minute every 30 minutes when used.

**Drugs given**: Record any additional drugs given.

**Pulse**: Record every 30 minutes and mark with a dot (!).

**Blood pressure**: Record every 4 hours and mark with arrows.

**Temperature**: Record every 2 hours.

**Protein, acetone and volume**: Record when urine is passed.
CASE 1

Step 1
- Mrs. A. was admitted at 05.00 on 12.9.2003
- Membranes ruptured 04.00
- Gravida 3, Para 2+0
- Hospital number 7886
- On admission the fetal head was 4/5 palpable above the symphysis pubis and the cervix was 2 cm dilated

Q: What should be recorded on the partograph?

Note: Mrs. A. is not in active labor. Record only the details of her history, i.e., first four bullets, not the descent and cervical dilation.

Step 2
- 09.00:
  - The fetal head is 3/5 palpable above the symphysis pubis
  - The cervix is 5 cm dilated

Q: What should you now record on the partograph?

Note: Mrs. A. is now in the active phase of labor. Plot this and the following information on the partograph:

- 3 contractions in 10 minutes, each lasting 20–40 seconds
- Fetal heart rate (FHR) 120
- Membranes ruptured, amniotic fluid clear
- Sutures of the skull bones are apposed
- Blood pressure 120/70 mmHg
- Temperature 36.8°C
- Pulse 80/minute
- Urine output 200 mL; negative protein and acetone

Q: What steps should be taken?
Q: What advice should be given?
Q: What do you expect to find at 13.00?
Step 3

Plot the following information on the partograph:

09.30  FHR 120, Contractions 3/10 each 30 seconds, Pulse 80/minute
10.00  FHR 136, Contractions 3/10 each 30 seconds, Pulse 80/minute
10.30  FHR 140, Contractions 3/10 each 35 seconds, Pulse 88/minute
11.00  FHR 130, Contractions 3/10 each 40 seconds, Pulse 88/minute, Temperature 37°C
11.30  FHR 136, Contractions 4/10 each 40 seconds, Pulse 84/minute, Head is 2/5 palpable
12.00  FHR 140, Contractions 4/10 each 40 seconds, Pulse 88/minute
12.30  FHR 130, Contractions 4/10 each 45 seconds, Pulse 88/minute
13.00  FHR 140, Contractions 4/10 each 45 seconds, Pulse 90/minute, Temperature 37°C

•  13.00:
  • The fetal head is 0/5 palpable above the symphysis pubis
  • The cervix is fully dilated
  • Amniotic fluid clear
  • Sutures apposed
  • Blood pressure 100/70 mmHg
  • Urine output 150 mL; negative protein and acetone

Q: What steps should be taken?
Q: What advice should be given?
Q: What do you expect to happen next?

Step 4

Record the following information on the partograph:

•  13.20: Spontaneous birth of a live female infant weighing 2,850 g

Answer the following questions:

Q: How long was the active phase of the first stage of labor?
Q: How long was the second stage of labor?
CASE 2

Step 1

- Mrs. B. was admitted at 10.00 on 12.9.2003
- Membranes intact
- Gravida 1, Para 0+0
- Hospital number 1443

Record the information above on the partograph, together with the following details:

- The fetal head is 5/5 palpable above the symphysis pubis
- The cervix is 4 cm dilated
- 2 contractions in 10 minutes, each lasting less than 20 seconds
- FHR 140
- Membranes intact
- Blood pressure 100/70 mmHg
- Temperature 36.2°C
- Pulse 80/minute
- Urine output 400 mL; negative protein and acetone

Q: What is your diagnosis?
Q: What action will you take?

Step 2

Plot the following information on the partograph:

10.30 FHR 140, Contractions 2/10 each 15 sec, Pulse 90/minute
11.00 FHR 136, Contractions 2/10 each 15 sec, Pulse 88/minute
11.30 FHR 140, Contractions 2/10 each 20 sec, Pulse 84/minute
12.00 FHR 136, Contractions 2/10 each 15 sec, Pulse 88/minute, Temperature 36.2°C, Membranes intact

12.00:
- The fetal head is 5/5 palpable above the symphysis pubis
- The cervix is 4 cm dilated, membranes intact

Q: What is your diagnosis?
Q: What action will you take?
Step 3

Plot the following information on the partograph:

12.30  FHR 136, Contractions 1/10 each 15 sec, Pulse 90/minute
13.00  FHR 140, Contractions 1/10 each 15 sec, Pulse 88/minute
13.30  FHR 130, Contractions 1/10 each 20 sec, Pulse 88/minute
14.00  FHR 140, Contractions 2/10 each 20 sec, Pulse 90/minute, Temperature 36.8°C, Blood pressure 100/70 mmHg

- 14:00:
  - The fetal head is 5/5 palpable above the symphysis pubis
  - Urine output 300 mL; negative protein and acetone

Q: What is your diagnosis?

Q: What will you do?

Plot the following information on the partograph:

- 14:00:
  - The cervix is 4 cm dilated, sutures apposed
  - Labor augmented with oxytocin 2.5 units in 500 mL IV fluid at 10 drops per minute (dpm)
  - Membranes artificially ruptured, clear fluid

Step 4

Plot the following information on the partograph:

- 14.30:
  - 2 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 20 dpm
  - FHR 140, Pulse 90/minute

- 15.00:
  - 3 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 30 dpm
  - FHR 140, Pulse 90/minute

- 15:30:
  - 3 contractions in 10 minutes, each lasting 30 seconds
  - Infusion rate increased to 40 dpm
  - FHR 140, Pulse 88/minute
16.00:
- Fetal head 2/5 palpable above the symphysis pubis
- Cervix 6 cm dilated; sutures apposed
- 3 contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 50 dpm
- FHR 144, Pulse 92/minute
- Amniotic fluid clear

16.30:
- 3 contractions in 10 minutes, each lasting 45 seconds
- FHR 140, Pulse 90/minute
- Infusion remains at 50 dpm

Q: What steps would you take?

Step 5

17.00  FHR 138, Pulse 92/minute, Contractions 3/10 each 40 sec, Maintain at 50 dpm
17.30  FHR 140, Pulse 94/minute, Contractions 3/10 each 45 sec, Maintain at 50 dpm
18.00  FHR 140, Pulse 96/minute, Contractions 4/10 each 50 sec, Maintain at 50 dpm
18.30  FHR 144, Pulse 94/minute, Contractions 4/10 each 50 sec, Maintain at 50 dpm

Step 6

Plot the following information on the partograph:

- 19.00:
  - Fetal head 0/5 palpable above the symphysis pubis
  - 4 contractions in 10 minutes, each lasting 50 seconds
  - FHR 144, Pulse 90/minute
  - Cervix fully dilated

Step 7

Record the following information on the partograph:

- 19.30:
  - 4 contractions in 10 minutes, each lasting 50 seconds
  - FHR 142, Pulse 100/minute
- 20.00:
  - 4 contractions in 10 minutes, each lasting 50 seconds
- FHR 146, Pulse 110/minute
- 20.10:
  - Spontaneous birth of a live male infant weighing 2,654 g

Answer the following questions:

Q: How long was the active phase of the first stage of labor?
Q: How long was the second stage of labor?
Q: Why was labor augmented?
CASE 3

Step 1

- Mrs. C. was admitted at 10.00 on 12.9.2003
- Membranes ruptured 09.00
- Gravida 4, Para 3+0
- Hospital number 6639

Record the information above on the partograph, together with the following details:
- Fetal head 3/5 palpable above the symphysis pubis
- Cervix 4 cm dilated
- 3 contractions in 10 minutes, each lasting 30 seconds
- FHR 140
- Amniotic fluid clear
- Sutures apposed
- Blood pressure 120/70 mmHg
- Temperature 36.8°C
- Pulse 80/minute
- Urine output 200 mL; negative protein and acetone

Step 2

Plot the following information in the partograph:

10.30  FHR 130, Contractions 3/10 each 35 sec, Pulse 80/minute
11.00  FHR 136, Contractions 3/10 each 40 sec, Pulse 90/minute
11.30  FHR 140, Contractions 3/10 each 40 sec, Pulse 88/minute
12.00  FHR 140, Contractions 3/10 each 40 sec, Pulse 90/minute, Temperature 37°C, Head 3/5 palpable
12.30  FHR 130, Contractions 3/10 each 40 sec, Pulse 90/minute
13.00  FHR 130, Contractions 3/10 each 45 sec, Pulse 88/minute
13.30  FHR 120, Contractions 3/10 each 45 sec, Pulse 88/minute
14.00  FHR 130, Contractions 4/10 each 45 sec, Pulse 90/minute, Temperature 37°C, Blood pressure 100/70 mmHg

- 14:00:
  - Fetal head 3/5 palpable above the symphysis pubis
  - Cervix 6 cm dilated, amniotic fluid clear
  - Sutures overlapped but reducible
Step 3

14.30  FHR 120, Contractions 4/10 each 40 sec, Pulse 90/minute, Clear fluid
15.00  FHR 120, Contractions 4/10 each 40 sec, Pulse 88/minute, Blood-stained fluid
15.30  FHR 100, Contractions 4/10 each 45 sec, Pulse 100/minute
16.00  FHR 90, Contractions 4/10 each 50 sec, Pulse 100/minute, Temperature 37°C
16.30  FHR 96, Contractions 4/10 each 50 sec, Pulse 100/minute
17.00  FHR 90, Contractions 4/10 each 50 sec, Pulse 110/minute

- 17:00:
  - Fetal head 3/5 palpable above the symphysis pubis
  - Cervix 6 cm dilated
  - Amniotic fluid meconium stained
  - Sutures overlapped and not reducible
  - Urine output 100 mL; protein negative, acetone 1+

Step 4

Record the following information on the partograph:

- Cesarean section at 17.30, live female infant with poor respiratory effort and weighing 4,850 g

Answer the following questions:

Q: What is the final diagnosis?
Q: What action was indicated at 14.00, and why?
Q: What action was indicated at 15.00, and why?
Q: At 17.00, a decision was taken to do a cesarean section, and this was rapidly done. Was this a correct action?
Q: What problems may be expected in the newborn?
EXERCISE: USING THE PARTOGRAPH—ANSWER KEY

CASE 1

- **Step 1**—see partograph
- **Step 2**—see partograph
  - Steps: Inform Mrs. A. and her family of the findings and what to expect; encourage her to ask questions; provide her comfort measures, hydration, and nutrition
  - Advice: Assume position of choice; drink plenty of fluids and eat as desired
- Expect at 13.00: Progress to at least 9 cm dilation

**Step 3**—see partograph
- Steps: Prepare for birth
- Advice: Push only when urge to push
- Expect: Spontaneous vaginal birth

**Step 4**
- 1st stage of active labor: 5 hours (4 hrs plotted [09.00 to 13.00] plus estimated 1 hour for dilation from 4–5 cm)
- 2nd stage of active labor: 20 minutes
CASE 2

- **Step 1**—see partograph:
  - Diagnosis: Active labor
  - Action: Inform Mrs. B. and her family about findings and what to expect; give continual opportunity to ask questions; encourage Mrs. B. to walk around and to drink and eat as desired

- **Step 2**—see partograph:
  - Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good fetal and maternal condition
  - Action: The facilitator should take the opportunity to open a discussion about using oxytocin for augmenting labor based on the clinical setting. For instance, is the woman being cared for at a health post that is 4 hours away from a district hospital where an oxytocin drip can be started? Or if she is being cared for in a district hospital, can other measures be used (such as hydration, ambulation) before oxytocin is started?

- **Step 3**:
  - Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good maternal and fetal condition
  - Action: Augment labor with oxytocin and artificial rupture of membranes; inform Mrs. B. and her family of the findings and what to expect; reassure; answer questions; encourage drinks; encourage Mrs. B. to assume position of choice

- **Step 4**:
  - Steps: Continue to augment labor (maintain oxytocin infusion rate at 50 dpm), provide comfort (psychological and physical); encourage drinks and nutrition
  
- **Step 5**—see partograph
  
- **Step 6**—see partograph
  
- **Step 7**:
  - 1st stage of labor: 9 hours
  - 2nd stage of labor: 1 hour 10 minutes
  - Why augment: Less than 3 contractions in 10 minutes, each lasting less than 40 seconds (lack of progress)
**Case 3**

- **Step 1**—see partograph
- **Step 2**—see partograph
- **Step 3**—see partograph
- **Step 4**—see partograph
  - Final diagnosis: Obstructed labor with fetal head 3/5 palpable above the symphysis pubis
- Cesarean section because Mrs. C. is already in secondary arrest of dilatation and descent despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds
- 15.00 action: Continue emotional and physical support, including hydration (because Mrs. C. and her family may become discouraged with lack of progress and emotionally and physically exhausted); continue attentive monitoring of maternal and fetal condition; have crossed alert line; blood-stained amniotic fluid
- Decision to perform caesarean section: Correct because fetal condition deteriorating, failure to progress despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds, acetone in urine, rising maternal pulse
- Problems expected in newborn: asphyxia, meconium aspiration

Q: What is the final diagnosis?
Q: What action was indicated at 14.00, and why?
Q: What action was indicated at 15.00, and why?
Q: At 17.00, a decision was taken to do a cesarean section, and this was rapidly done. Was this a correct action?
Q: What problems may be expected in the newborn?
KNOWLEDGE ASSESSMENT: MANAGING LABOR USING THE PARTOGRAPH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. If a woman is admitted during the first stage/active phase of labor, cervical dilatation is plotted on the partograph:
   a. To the left of the alert line
   b. To the right of the alert line
   c. On the alert line
   d. On the action line

2. The characteristics of amniotic fluid that is not included on the partograph is:
   a. Clear
   b. Foul-smelling
   c. Blood stained
   d. Meconium-stained

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. The fetal heart should be recorded on the partograph once per hour.  

4. Frequency of contractions is calculated by palpating contractions for 1 full minute.  

KNOWLEDGE ASSESSMENT: MANAGING LABOR USING THE PARTOGRAPH—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. If a woman is admitted during the first stage/active phase of labor, cervical dilatation is plotted on the partograph:
   a. To the left of the alert line
   b. To the right of the alert line
   c. On the alert line
   d. On the action line

3. The characteristics of amniotic fluid that is not included on the partograph is:
   a. Clear
   b. Foul-smelling
   c. Blood stained
   d. Meconium-stained

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. The fetal heart should be recorded on the partograph once per hour.          FALSE

4. Frequency of contractions is calculated by palpating contractions for 1 full minute.  FALSE
Best Practices in Managing Labor Using the Partograph

Best Practices in Maternal and Newborn Care

Session Objectives

- Discuss the importance of using a partograph
- Understand how to fill in a partograph
- Understand how to use a partograph in decision-making

Usefulness of the Partograph

- Assessment of fetal well-being
- Assessment of maternal well-being
- Assessment of progress of labor

Measuring Fetal Well-Being during Labor

- Fetal heart rates and pattern
- Degree of molding, caput
- Color of amniotic fluid
Measuring Maternal Well-Being during Labor

- Pulse, temperature, blood pressure, respiration
- Urine output, ketones, protein

Measuring Progress of Labor

- Cervical dilatation
- Descent of presenting part
- Contractions
  - Duration
  - Frequency
- Alert and action lines

Using the Partograph

- Patient information: Name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes
- Fetal heart rate: Record every half hour
- Amniotic fluid: Record the color at every vaginal examination:
  - I: membranes intact
  - C: membranes ruptured, clear fluid
  - M: meconium-stained fluid
  - B: blood-stained fluid

Using the Partograph (cont.)

- Molding:
  - 1: sutures apposed
  - 2: sutures overlapped but reducible
  - 3: sutures overlapped and not reducible
- Cervical dilatation: Assess at every vaginal examination, mark with cross (X)
- Alert line: Line starts at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour
- Action line: Parallel and 4 hours to the right of the alert line
Using the Partograph (Descent)

- Descent assessed by abdominal palpation: Part of head (divided into 5 parts) palpable above the symphysis pubis; recorded as a circle (O) at every vaginal examination. At 0/5, the sinciput (S) is at the level of the symphysis pubis.

Using the Partograph (Timing)

- Hours: Time elapsed since onset of active phase of labor (observed or extrapolated)
- Time: Record actual time
- Contractions: Chart every half hour; palpate the number of contractions in 10 minutes and their duration in seconds
  - Less than 20 seconds: 
  - Between 20 and 40 seconds: 
  - More than 40 seconds: 

Using the Partograph (Drugs)

- Oxytocin: Record amount per volume IV fluids in drops/min. every 30 min. when used
- Drugs given: Record any additional drugs given

Using the Partograph (Vital Signs and Urine)

- Temperature: Record every 2 hours
- Pulse: Record every 30 minutes and mark with a dot (∗)
- Blood pressure: Record every 4 hours and mark with arrows
- Protein, acetone and volume: Record every time urine is passed
The Modified WHO Partograph

Sample Partograph for Normal Labor

Partograph Showing Obstructed Labor

Partograph Showing Inadequate Uterine Contractions Corrected with Oxytocin (Oxytocin should have been started 2 hours earlier—Hour 2)
Practice

Now let’s practice use of the partograph with simulated situations
### SUPPLEMENTARY MODULE 9.2: BEST PRACTICES IN CARE FOR ASSISTED BREECH BIRTH—SESSION PLAN

**MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE**

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Care for Assisted Breech Birth</td>
<td>90 min</td>
</tr>
</tbody>
</table>

#### SESSION OBJECTIVES

*By the end of this session, participants will be able to:*

- Identify best practices for managing breech birth:
  - Procedures to assist in delivery
  - Post-procedure tasks

#### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: Best practices in care during breech birth (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use questions and discussion throughout presentation as indicated on slides.</td>
</tr>
<tr>
<td>• Be sure to cover the following topical areas:</td>
</tr>
<tr>
<td>- Indications for vaginal breech birth</td>
</tr>
<tr>
<td>- Breech presentations</td>
</tr>
<tr>
<td>- Overall tasks</td>
</tr>
<tr>
<td>- Procedure: Delivery of buttocks and legs</td>
</tr>
<tr>
<td>- Procedure: If legs to not deliver spontaneously</td>
</tr>
<tr>
<td>- Procedure: Normal delivery of the arms</td>
</tr>
<tr>
<td>- Procedure: Loveset Maneuver</td>
</tr>
<tr>
<td>- Procedure: If baby cannot be turned to deliver anterior arm first</td>
</tr>
<tr>
<td>- Procedure: Delivery of the head</td>
</tr>
<tr>
<td>- Procedure: If head is entrapped</td>
</tr>
<tr>
<td>- Post-procedure tasks</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Skills demonstration and practice: Assisting a breech birth (70 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demonstration:</strong> (20 min)</td>
</tr>
<tr>
<td>Distributed learning guides and demonstrate:</td>
</tr>
<tr>
<td>- Assisting a breech birth</td>
</tr>
</tbody>
</table>

| Practice: (50 min) |
| Divide participants into three groups to practice each skill with a model. One practices while others in group follow with learning guide. Participants rotate within small group until all have practiced. They then rotate to another skill station. |

**NOTE:** The facilitator/teacher may choose to include demonstration with the illustrated presentation/discussion, if model and other equipment are available in the classroom.
## SKILLS PRACTICE SESSION: ASSISTING A BREECH BIRTH

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice management of breech birth and to achieve competency in the skills required. | This activity should be conducted in a simulated setting. (Most faculty will already be skilled in normal care, so this practice is to ensure that new evidence-based practices are incorporated into teaching and practice.) | • Childbirth simulator with baby and placenta  
• Syringes and vial  
• High-level disinfected or surgical gloves  
• Personal protective barriers  
• Delivery kit/pack  
• 0.5% chlorine solution and receptacle for decontamination  
• Leak-proof container or plastic bag |
| Learners should review Learning Guide for: Assisting a Breech Birth before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. Under the guidance of the teacher, learners should then work in pairs and practice the steps/tasks in each individual Learning Guide and observe each other’s performance; while one learner performs the skill, the second learner should use the relevant section of each Learning Guide to observe performance. Learners should then reverse roles. | Learning Guide: Assisting a Breech Birth  
Learning Guide: Assisting a Breech Birth |
| Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting. | Checklist: Assisting at Breech Birth |
# LEARNING GUIDE: ASSISTING A BREECH BIRTH

(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by participant during evaluation by facilitator/teacher

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<td>1. Prepare the necessary equipment.</td>
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<tr>
<td>2. Tell the woman what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
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<td>3. Ensure that conditions for breech delivery (complete or frank, adequate size pelvis for this fetus, no previous C-section or CPD, flexed head) are present.</td>
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</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>5. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
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</tr>
<tr>
<td>3. Place one sterile drape from delivery pack under the woman’s buttocks and one over her abdomen, and use the third drape to receive the baby.</td>
<td></td>
</tr>
<tr>
<td>4. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
<td></td>
</tr>
<tr>
<td>5. Place clean drape beneath woman’s hips.</td>
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</tr>
<tr>
<td>6. Catheterize the bladder if necessary.</td>
<td></td>
</tr>
<tr>
<td>7. When the buttocks have entered the vagina and the cervix is fully dilated, tell the woman she can bear down with contractions. Do episiotomy if necessary.</td>
<td></td>
</tr>
<tr>
<td>8. As the perineum distends, decide whether an episiotomy is necessary (e.g., if perineum is very tight). If needed, provide infiltration with lignocaine and perform an episiotomy.</td>
<td></td>
</tr>
<tr>
<td>9. Let the buttocks deliver until the lower back and then the shoulder blades are seen.</td>
<td></td>
</tr>
<tr>
<td>10. Gently hold the buttocks in one hand, but do not pull.</td>
<td></td>
</tr>
<tr>
<td>11. If the legs do not deliver spontaneously, deliver one leg at a time:</td>
<td></td>
</tr>
<tr>
<td>• Push behind the knee to bend the leg.</td>
<td></td>
</tr>
<tr>
<td>• Grasp the ankle and deliver the foot and leg.</td>
<td></td>
</tr>
<tr>
<td>• Repeat for the other leg.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>12. Hold the newborn by the hips, but do not pull.</td>
<td></td>
</tr>
<tr>
<td>13. If the arms are felt on the chest, allow them to disengage spontaneously:</td>
<td></td>
</tr>
<tr>
<td>• After spontaneous delivery of the first arm, lift the buttocks toward the mother’s abdomen to enable the second arm to deliver spontaneously.</td>
<td></td>
</tr>
<tr>
<td>• If the arm does not deliver spontaneously, place one or two fingers in the elbow and bend the arm, bringing the hand down over the newborn’s face.</td>
<td></td>
</tr>
<tr>
<td>14. If the arms are stretched above the head or folded around the neck, use Loveset’s maneuver:</td>
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</tr>
<tr>
<td>• Hold the newborn by the hips and turn half a circle, keeping the back uppermost.</td>
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</tr>
<tr>
<td>• Apply downward traction at the same time so that the posterior arm becomes anterior, and deliver the arm under the pubic arch by placing one or two fingers on the upper part of the arm.</td>
<td></td>
</tr>
<tr>
<td>• Draw the arm down over the chest as the elbow is flexed, with the hand sweeping over the face.</td>
<td></td>
</tr>
<tr>
<td>• To deliver the second arm, turn the newborn back half a circle while keeping the back uppermost and applying downward traction to deliver the second arm in the same way under the pubic arch.</td>
<td></td>
</tr>
<tr>
<td>15. If the newborn’s body cannot be turned to deliver the arm that is anterior first, deliver the arm that is posterior:</td>
<td></td>
</tr>
<tr>
<td>• Hold and lift the newborn up by the ankles</td>
<td></td>
</tr>
<tr>
<td>• Move the newborn’s chest towards the mother’s inner leg to deliver the posterior arm.</td>
<td></td>
</tr>
<tr>
<td>• Deliver the arm and hand.</td>
<td></td>
</tr>
<tr>
<td>• Lay the newborn down by the ankles to deliver the anterior shoulder.</td>
<td></td>
</tr>
<tr>
<td>• Deliver the arm and hand.</td>
<td></td>
</tr>
<tr>
<td>16. Deliver the head by the Mauriceau Smellie Veit maneuver:</td>
<td></td>
</tr>
<tr>
<td>• Lay the newborn face down with the length of the body over your hand and arm.</td>
<td></td>
</tr>
<tr>
<td>• Place first and third fingers of this hand on the newborn’s cheekbones.</td>
<td></td>
</tr>
<tr>
<td>• Place second finger in the newborn’s mouth to pull the jaw down and flex the head.</td>
<td></td>
</tr>
<tr>
<td>• Use the other hand to grasp the newborn’s shoulders.</td>
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</tr>
<tr>
<td>• With two fingers of this hand, gently flex the newborn’s head toward the chest.</td>
<td></td>
</tr>
<tr>
<td>• At the same time apply downward pressure on the jaw to bring the newborn’s head down until the hairline is visible.</td>
<td></td>
</tr>
<tr>
<td>• Pull gently to deliver the head.</td>
<td></td>
</tr>
<tr>
<td>• Ask an assistant to push gently above the mother’s public bone as the head delivers.</td>
<td></td>
</tr>
<tr>
<td>• Raise the newborn, still astride the arm, until the mouth and nose are free.</td>
<td></td>
</tr>
<tr>
<td>17. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose with a clean cloth.</td>
<td></td>
</tr>
<tr>
<td>18. Place the baby in skin-to-skin contact on the abdomen of the mother, dry the baby, assess the baby’s breathing and perform resuscitation if needed.</td>
<td></td>
</tr>
<tr>
<td>19. Administer a uterotonic (the uterotonic of choice is oxytocin 10 IU IM) immediately after the birth of the baby, and after ruling out the presence of another baby.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
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<tr>
<td>20. Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after the birth of the baby, whichever comes first.</td>
<td></td>
</tr>
<tr>
<td>21. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth.</td>
<td></td>
</tr>
<tr>
<td>22. Perform controlled cord traction.</td>
<td></td>
</tr>
<tr>
<td>23. Massage uterus until contracted.</td>
<td></td>
</tr>
<tr>
<td>24. Examine the placenta:</td>
<td></td>
</tr>
<tr>
<td>• Hold placenta in palm of hands, with maternal side facing upwards, and check whether all lobules are present and fit together.</td>
<td></td>
</tr>
<tr>
<td>• Hold cord with one hand and allow placenta and membranes to hang down.</td>
<td></td>
</tr>
<tr>
<td>• Insert fingers of other hand inside membranes, with fingers spread out, and inspect membranes for completeness.</td>
<td></td>
</tr>
<tr>
<td>25. Check the birth canal for tears and repair if necessary.</td>
<td></td>
</tr>
<tr>
<td>26. Repair episiotomy if necessary.</td>
<td></td>
</tr>
<tr>
<td>27. Gently cleanse the perineum with warm water and a clean cloth.</td>
<td></td>
</tr>
<tr>
<td>28. Apply a clean pad or cloth to the vulva.</td>
<td></td>
</tr>
<tr>
<td>29. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.)</td>
<td></td>
</tr>
</tbody>
</table>

**POST-PROCEDURE TASKS**

<table>
<thead>
<tr>
<th>TASK</th>
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<td>1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.</td>
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<td>2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.</td>
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<td>3. Decontaminate needles and or syringes:</td>
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<td>• If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container.</td>
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<tr>
<td>• If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
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<tr>
<td>• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container.</td>
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<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.</td>
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<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
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### CHECKLIST: ASSISTING A BREECH BIRTH
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✓” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

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Participant __________________________________ Date Observed ____________________

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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

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<td>3. When the buttocks have entered the vagina and the cervix is fully dilated, tell the woman she can bear down with contractions.</td>
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## Checklist for Assisting a Breech Birth

(Some of the following steps/tasks should be performed simultaneously.)

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<td>17. Check placenta for completeness.</td>
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<td>18. Check the birth canal for tears and repair tears or episiotomy, if necessary.</td>
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<td>19. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn.</td>
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### Skill/Activity Performed Satisfactorily

#### Post-procedure Tasks

1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.
2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.
3. Decontaminate needles and or syringes:
4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:
5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.

### Skill/Activity Performed Satisfactorily
KNOWLEDGE ASSESSMENT: ASSISTING A BREECH BIRTH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Indications for a vaginal breech birth include all of the following except:
   a. Mother at term
   b. Frank or complete breech presentation
   c. Cervix completely dilated
   d. No evidence of cephalopelvic disproportion

2. When delivering the buttocks and legs:
   a. When the buttocks are visible at the vagina tell the woman she may push
   b. Once buttocks are delivered, hold baby by flanks or abdomen
   c. Once buttocks are delivered, gently pull on baby so that body descends and arms can be delivered
   d. b) and c)

3. When the baby’s head is delivering, do all of the following except:
   a. Lay baby face down with length of body over your arm and hand
   b. Place 1st and 3rd fingers on baby’s cheekbone and 2nd finger in baby’s mouth to pull jaw down and flex head
   c. Keep baby’s head extended away from chest as head delivers
   d. You may pull gently to deliver baby’s head

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. A partograph is not an appropriate tool when caring for a mother with a breech baby.

5. A vacuum extractor is not an appropriate tool when caring for a mother with a breech birth.

6. If the legs do not deliver spontaneously, pull gently on the baby so that buttocks and legs descend.
KNOWLEDGE ASSESSMENT: ASSISTING A BREECH BIRTH—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Indications for a vaginal breech birth include all of the following except:
   a. Mother at term
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   d. You may pull gently to deliver baby’s head

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. A partograph is not an appropriate tool when caring for a mother with a breech baby. FALSE

5. A vacuum extractor is not an appropriate tool when caring for a mother with a breech birth. TRUE

6. If the legs do not deliver spontaneously, pull gently on the baby so that buttocks and legs descend. FALSE
Session Objectives

- To identify best practices for managing breech birth:
  - Procedures to assist in delivery
  - Post-procedure tasks

Indications for Vaginal Breech Birth

- Frank or complete breech presentation
- Cervix completely dilated
- No evidence of cephalopelvic disproportion

Breech Presentations

- Frank
- Complete
Overall Tasks

- Plot all parameters on partograph during labor
- Start an IV infusion
- Provide emotional support and encouragement
- Perform all maneuvers gently and without force

Procedure: Delivery of Buttocks and Legs

- Once buttocks are in vagina, tell woman she may push.
- Perform episiotomy if perineum is tight.
- Allow buttocks to deliver until shoulder blades are seen.
- Gently hold buttocks in one hand, but do not pull. Do not hold by flanks or abdomen as this may cause kidney or liver damage.

Procedure: Holding the Baby at the Hips

If Legs Do Not Deliver Spontaneously

- Deliver one leg at a time
- Push behind the knee to bend the leg
- Grasp the ankle and deliver the foot and leg
- Repeat for other leg
- DO NOT PULL THE BABY WHILE THE LEGS ARE BEING DELIVERED!
Procedure: Normal Delivery of the Arms

- If the arms are felt on the chest:
  - Allow arms to disengage spontaneously
  - After delivery of first arm, lift buttocks toward mother’s abdomen
  - If arm does not deliver spontaneously, place one or two fingers in elbow and bend arm, bringing down over baby’s face

Procedure: If Arms Are Stretched above the Head: Loveset Maneuver

- Hold baby by hips and turn half circle
- Keep back uppermost while downward traction brings posterior arm into anterior position
- Flex first (now anterior) arm as on previous slide
- Deliver second arm by half circle turn, keeping back uppermost and repeat to deliver other arm

Procedure: If the Baby’s Body Cannot Be Turned to Deliver Anterior Arm First

- Lift baby up by ankles.
- Move baby’s chest towards woman’s inner leg. The shoulder that is posterior should deliver.
- Deliver the arm and hand.
- Lay the baby back down by ankles so that anterior shoulder now delivers with arm and hand.

Procedure: Delivery of the Head

As Shown on Next Slide:

- Lay baby face down with length of body over your arm and hand
- Place 1st and 3rd fingers on baby’s cheekbone and 2nd finger in baby’s mouth to pull jaw down and flex head
- Use other hand to grasp baby’s shoulders
- With 2 fingers of this hand, flex baby’s head toward chest while pulling on jaw
- Pull gently to deliver head
- NOTE: Ask an assistant to push above the woman’s pubic bone as the head delivers to help keep head flexed
Procedure: Delivery of the Head

1. ... 2. ...

Procedure: If Head Is Entrapped

- Catheterize bladder
- Have an assistant hold the baby while you apply Piper forceps
- Wrap baby in cloth or towel and hold baby up
- Use forceps to flex and deliver the baby’s head
- Apply firm pressure above the woman’s pubic bone to flex baby’s head

Post-Procedure Tasks

- Suction baby’s mouth and nose if necessary
- Clamp and cut cord
- Keep baby warm and dry
- Perform active management of the third stage of labor
- Examine the woman carefully for tears of the vagina, perineum and cervix, and repair episiotomy
### MODULE 10: BEST PRACTICES IN VACUUM EXTRACTOR-ASSISTED BIRTH—SESSION PLAN

**MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE**

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Vacuum Extractor-Assisted Birth</td>
<td>120 min</td>
</tr>
</tbody>
</table>

#### SESSION OBJECTIVES

*By the end of this session, participants will be able to:*
- State implications and contraindications for use of the vacuum extractor
- Describe complications associated with use of vacuum extractor
- Compare advantages and disadvantages of vacuum extractor versus forceps
- Demonstrate the steps in vacuum extractor birth
- Describe the care of a vacuum extractor, tubing and pump after use

#### Methods and Activities

**Introduction of topic and discussion of participants’ previous experience with use of vacuum extractor for assisting birth (10 min)**
- Use questioning of group to draw out experience of participants.
- Show pieces of vacuum extractor equipment.

**Illustrated presentation/discussion: Best practices in vacuum extractor-assisted birth (30 min)**
- Intersperse presentation with questions that illicit knowledge of participants:
  - Indications for VE
  - Conditions for use of VE
  - Contraindications for use of VE
  - Application of the cup
  - Comparison of VE and forceps
  - Possible fetal and maternal complications
- Discuss issues that arise during presentation and questioning.

**Demonstration and skills practice session: Vacuum extractor-assisted birth (80 min)**
- Remind learners about pieces of vacuum extractor equipment.
- Using a model, demonstrate correct use of vacuum extractor for assisting birth, with learners following with learning guide.
- Demonstrate cleaning and care of vacuum extractor equipment.
- Allow learners to practice on models using learning guide.
- When learner feels confident of competence, observe return demonstration using checklist.

*Allow clinical practice with clients after learner is competent on model.*

#### Materials/Resources

- Boxlight projector
- PowerPoint presentation
  OR
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Vacuum extractor with cups
- Childbirth simulator
- Drapes for model
- Newborn model with head that is soft enough to allow suction to develop with VE cup
- Delivery kit
- DeLee mucus trap
- Syringe for simulated oxytocin administration
- Placenta pan
- Towels/blanket
- IP materials: gown, goggles, gloves, sharps container, buckets for chlorine solution, cloth for cleaning
LEARNING GUIDE: VACUUM EXTRACTION
(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare and test the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>3. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
</tbody>
</table>
| 4. Review to ensure that the following conditions for vacuum extraction are present:  
  - Vertex presentation  
  - Term fetus  
  - Cervix fully dilated  
  - Head at least at 0 station or no more than 2/5 palpable above the symphysis pubis | |
| 5. Make sure an assistant is available. | |
| 6. Put on personal protective equipment. | |
| **PRE-PROCEDURE TASKS** | |
| 1. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a sterile cloth or air dry. | |
| 2. Put high-level disinfected or sterile surgical gloves on both hands. | |
| 3. Clean the vulva with antiseptic solution. | |
| 4. Catheterize the bladder, if necessary. | |
| 5. Check all connections on the vacuum extractor and test the vacuum on a gloved hand. | |
| **VACUUM EXTRACTION** | |
| 1. Assess the position of the fetal head by feeling the sagittal suture line and the fontanelles. | |
| 2. Identify the posterior fontanelle. | |
| 3. Apply the largest cup that will fit, with the center of the cup over the flexion point, 1 cm anterior to the posterior fontanelle. | |
### LEARNING GUIDE FOR VACUUM EXTRACTION

(Many of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</table>
| 4. Check the application and ensure that there is no maternal soft tissue (cervix or vagina) within the rim of the cup:  
  • If necessary, release pressure and reapply cup. |       |
| 5. Have the assistant create a vacuum of 0.2 kg/cm² negative pressure with the pump and check the application of the cup. |       |
| 6. Increase the vacuum to 0.8 kg/cm² negative pressure and check the application of the cup. Do NOT exceed 600 mm Hg in red zone. |       |
| 7. After maximum negative pressure has been applied, start traction in the line of the pelvic axis and perpendicular to the cup:  
  • If the fetal head is tilted to one side or not flexed well, traction should be directed in a line that will try to correct the tilt or deflexion of the head (i.e., to one side or the other, not necessarily in the midline). |       |
| 8. With each contraction, apply traction in a line perpendicular to the plane of the cup rim:  
  • Place a gloved finger of the non-dominant hand on the scalp next to the cup during traction to assess potential slippage and descent of the vertex.  
  • Do NOT pull between contractions. |       |
| 9. Between each contraction have assistant check:  
  • Fetal heart rate  
  • Application of the cup |       |
| 10. With progress, and in the absence of fetal distress, continue the “guiding” pulls for a maximum of 30 minutes. |       |
| 11. Perform an episiotomy, if necessary, for proper placement of the cup (see Learning Guide for Episiotomy and Repair). If episiotomy is necessary for placement of the cup, delay until the head stretches the perineum or the perineum interferes with the axis of traction. |       |
| 12. When the head has been delivered, release the vacuum, remove the cup and complete the birth of the newborn. |       |
| 13. Clamp and cut the cord after cord pulsations have ceased or approximately 2-3 minutes after birth of the baby, whichever comes first. |       |
| 14. Place the infant directly on the mother’s chest, prone, with the newborn’s skin touching the mother’s skin. Cover the baby’s head with a cap or cloth. |       |
| 15. Perform active management of the third stage of labor to deliver the placenta:  
  • Give 10 IU oxytocin intramuscularly.  
  • Perform controlled cord traction.  
  • Massage uterus. |       |
| 16. Check the birth canal for tears following childbirth and repair, if necessary. |       |
| 17. Repair the episiotomy, if one was performed (see Learning Guide for Episiotomy and Repair). |       |
| 18. Provide immediate postpartum and newborn care, as required. |       |

### POST-PROCEDURE TASKS

1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag. |       |
2. Place all instruments in 0.5% chlorine solution for 10 minutes for decontamination. |       |
### LEARNING GUIDE FOR VACUUM EXTRACTION

(Many of the following steps/tasks should be performed simultaneously.)

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<td>3. If fluids are in pump, clean by pumping water through the pump.</td>
<td></td>
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<tr>
<td>4. Dry pump by pumping air until no moisture is felt where pump connects to tubing.</td>
<td></td>
</tr>
<tr>
<td>5. If cup and tubing are reusable, decontaminate with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
</tbody>
</table>
| 6. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out:<br>   • If disposing of gloves, place them in a leak-proof container or plastic bag.  
   • If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.                                                                                           |       |
| 7. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.                                                                                                                                                    |       |
| 8. Record the procedure and findings on woman’s record.                                                                                                                                                                                                               |       |
CHECKLIST: VACUUM EXTRACTION
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

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Participant _____________________________________ Date Observed ________________

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<td>6. Put on personal protective equipment.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**PREPROCEDURE TASKS**

1. Use antiseptic handrub or wash hands thoroughly and put on high-level disinfected or sterile surgical gloves.
2. Clean the vulva with antiseptic solution.
3. Catheterize the bladder, if necessary.
4. Check all connections on the vacuum extractor and test the vacuum.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**VACUUM EXTRACTION**

1. Assess the position of the fetal head and identify the posterior fontanelle.
2. Apply the largest cup that will fit.
3. Check the application and ensure that there is no maternal soft tissue within the rim of the cup.
4. Have assistant create a vacuum of negative pressure and check the application of the cup.
5. Increase the vacuum to the maximum and then apply traction. Correct the tilt or deflexion of the head.
6. With each contraction, apply traction in a line perpendicular to the plane of the cup rim and assess potential slippage and descent of the vertex.
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**POSTPROCEDURE TASKS**

1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag.
2. Place all instruments in 0.5% chlorine solution for decontamination.
3. Decontaminate vacuum pump and appropriate parts.
4. Remove gloves and discard them in a leak-proof container or plastic bag if disposing of, or decontaminate them in 0.5% chlorine solution if reusing.
5. Use antiseptic handrub or wash hands thoroughly.
6. Record procedure and findings on woman’s record.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
KNOWLEDGE ASSESSMENT: VACUUM EXTRACTOR-ASSISTED BIRTH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Indications for use of a vacuum extractor to assist a birth include all of the following except:
   a. Maternal condition that makes voluntary pushing efforts contraindicated or impossible
   b. Need to reduce the length of first stage
   c. Abruptio placentae when 2nd stage is progressing rapidly and C-section is impossible

2. Conditions for use of the vacuum extractor include all of the following except:
   a. Vertex presentation
   b. Term fetus
   c. Head no more than 3/5 above symphysis pubis
   d. Cervix fully dilated

3. Contraindications to the use of a vacuum extractor include:
   a. Inability to achieve a proper suction
   b. Uncertainty concerning fetal position
   c. Suspicion of CPD
   d. Prior failed forceps
   e. a), b) and d)
   f. All of the above

4. Do not continue to pull the vacuum extractor if:
   a. The head does not advance with each pull
   b. The fetus is undelivered after 15 minutes
   c. The cup slips off of the head
   d. All of the above
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4. Do not continue to pull the vacuum extractor if:
   a. The head does not advance with each pull
   b. The fetus is undelivered after 15 minutes
   c. The cup slips off of the head
   d. All of the above
Session Objectives

1) State indications and contraindications for the use of the vacuum extractor.
2) State complications associated with vacuum extractor use for mother and baby.
3) Compare advantages and disadvantages of vacuum extractor versus forceps.
4) Compare advantages and disadvantages of soft cups and metal cups.

During clinical practice session:
- Demonstrate the steps for using the vacuum extractor using fetal and pelvis models and a skills checklist, including identification of the flexion point.
- Describe the care of a vacuum extractor, tubing and pump after use.

What is a vacuum extractor?

Clinical and Technical Principles
Correct Application of the Cup

Flexing Median Application
The center of the vacuum cup should be placed over the flexion point with the sagittal suture in the midline.

Location of the Flexion Point

Placement of the Vacuum Cup

Mechanism of Labor
- Flexion
- Synclitism
- Descent
- Internal Rotation
- Extension
- Restitution
**STATION**

Station is the relationship of the lowermost part of the presenting part to an imaginary line drawn between the ischial spines.

**ENGAGEMENT**

Engagement is defined as the point when the widest diameter of the presenting part (in a cephalic occipital presentation, the biparietal diameter) has passed through the pelvic inlet. In most circumstances, when the head is engaged, the lowermost part of the presenting part is at the level of ischial spines, or 0 station.

**FLEXION**

When flexion is complete, the shortest anteroposterior diameter, the suboccipitobregmatic (dotted line), is passing through the pelvic inlet. The solid dark line indicates the mentoccipital diameter.

**SYNCLITISM**

Courtesy of: Williams Obstetrics.
ACOG Forceps Classification
(Often applied to vacuum-assisted births)

Outlet:
1. Scalp is visible at the introitus without separating the labia.
2. Fetal skull has reached the pelvic floor.
3. Sagittal suture is in anteroposterior diameter or right or left occiput anterior or posterior position.
4. Fetal head is at or on the perineum.
5. Rotation does not exceed 45 degrees.

ACOG Forceps Classification

Low:
1. Leading point of fetal skull is at station ≥ +2 cm and not on the pelvic floor.
2. Rotation is 45 degrees or less (left or right occiput anterior to occiput anterior, or left or right occiput posterior to occiput posterior.
3. Rotation is greater than 45 degrees.

Mid-pelvic:
1. Station is above +2 station but head is engaged.

Pulling Downward

Pulling Horizontal
Pulling Straight Up

Metal Cups

**ADVANTAGES**
- Posterior metal cups are effective for:
  - Posterior position
  - Large baby
  - Significant caput
  - Deflexed head
- Can be autoclaved
- Already available in many locations where newer cups cannot be purchased
- Still used and available

**DISADVANTAGES**
- More difficult to apply
- More uncomfortable
- Higher incidence of fetal scalp injuries

Crowning

Advantages of Soft Cups

- Easier assembly and application
- Faster from application to effective traction
- Less pronounced chignon
- Fewer superficial scalp injuries
- Less retinal hemorrhage

Disadvantage of Soft Cups

- Higher rate of delivery failure
Mityvac Vacuum Pump

- No electricity required
- Trigger vacuum release for complete control throughout delivery by midwife or assistant
- Precision gauge color coded, calibrated in cm and inches of Hg
- Minigrip contoured handle
- May be autoclaved or gas sterilized

Care of Vacuum Extractor Pump, Cup and Tubing

- Pistol style pump is cleaned with a damp cloth (if pump is contaminated, wipe with 0.5% chlorine, then immediately with clear water).
- When fluid trap is used, it prevents fluid from being sucked into pump.
- If fluid is in pump, immerse in distilled water, pump until water expelled is clear, squeeze handles to air dry; do not leave fluid in the pump.
- Do not use soap or other cleaning solutions; they affect operation of pump.
- Cup and tubing should be soaked in 0.5% chlorine for 10 minutes, washed with soapy water and rinsed with clean water. Cup should be autoclaved. Tubing should be soaked for another 20 minutes in 0.5% chlorine, rinsed with clean water and air dried.

Complications – Newborn Caput

- Results from pressure applied to fetal scalp from:
  - Dilating cervix
  - Pelvic soft tissue
  - Vacuum
- Caput occurs at vacuum cup application site; also called chignon
- Interstitial hemorrhages and fluid accumulate to form caput; longer 2nd stage and longer procedure leads to more accumulation
- Makes tissue more vulnerable to abrasion, laceration, hematoma
- Resolves spontaneously in a few days

Complications – Newborn Cephalhematoma

- Cephalhematoma:
  - Vessel ruptures between periosteum and outer edge of fetal skull
  - Hemorrhage is self-limited since periosteum is attached to edges of cranial plates
  - Most common over parietal bone; does not cross suture lines
  - Takes 4–6 weeks to resolve
  - Mean incidence 6% with VE deliveries
Cephalhematoma

- May calcify and cause deformity (rare)
- Increase in bilirubin has been reported
- Not associated with long-term sequelae
- A vacuum chignon located over one of the parietal bones can be mistaken for cephalhematoma
- Over-diagnosed, as much as 4-fold
- Same incidence whether vacuum is intermittent or continuous
- Increased with higher station, increasing degree of asynclitism, greater time from application to delivery
- No increase with spontaneous rotation

Complications – Newborn Retinal Hemorrhage

Retinal hemorrhage:
- Retinal hemorrhage less when:
  - 2nd stage less than 1 hour
  - C/S
  - Breach birth
  - Forceps
- May result from changes in intracranial venous pressure
- Not increased with non-reassuring fetal heart rate
- Rate with vacuum higher than normal birth
- With vacuum, hemorrhage more common in right eye
- Transient sign
- No long-term consequences
- Pathophysiology unknown

Complications – Newborn Scalp Injuries

Scalp injuries:
- Bruising and swelling are common
- Cup disengagement contributes to abrasions, bruising, bleeding, swelling
- Incidence is greater if:
  - Vacuum procedure lasts longer than 10 minutes
  - 2nd stage is longer than 2 hours
  - Cup application is paramedian
- With metal cup, twisting causes cookie-cutter or semi-circumferential laceration

Complications – Newborn Intracranial Hemorrhage

Intracranial hemorrhage:
- Occurs in 1 of 860 VE deliveries, 1 of 1,900 spontaneous deliveries
- Higher when delivery is by vacuum, forceps or C/S as compared to normal vaginal delivery
- If C/S is before labor starts, incidence is not increased, suggesting that cause is related to abnormal labor rather than mode of delivery
- Rate markedly decreased with soft plastic cups
Complications – Newborn Subgaleal (Subaponeurotic) Hemorrhage

- Collection of blood under scalp
- Potential space can accommodate half or more of the blood volume of the neonate
- May cause coagulopathy, difficult to control
- Mortality almost 1 in 4
- Risk factors: use of vacuum, primpara, macrosomia, prolonged labor, CPD, prematurity, male gender, birth in Africa
- Occurs in approximately 1 in 1,000 VE deliveries

Subgaleal Hemorrhage (cont.)

- More likely to occur when vacuum applied over anterior fontanelle
- Watch for early signs of shock such as pallor, hypotonia, tachycardia, tachypnea, increasing head circumference
- Late signs include anemia and boggy, ballotable cranium
- Do hourly head circumference for 8 hours
- Draw a baseline umbilical cord hematocrit

Complications – Maternal

Perineal, vaginal and cervical lacerations are more likely with:
- Nullipara
- Use of forceps
- Use of episiotomy
- Posterior presentation
- Prolonged delivery time
- Increased birth weight
- Midpelvic station
- Greater than 45 degrees of rotation

Advantages of Vacuum Compared to Forceps – Baby and Delivery Factors

- Less force to fetal head
- Allows autorotation of fetal head
- Can be used to correct deflection and asynclitism
- Augments pushing and assists vaginal delivery
Advantages of Vacuum Compared to Forceps – Maternal and Provider Factors

- Fewer reproductive tract injuries, less maternal genital trauma including anal sphincter tears
- Less maternal discomfort during and after delivery
- Less anesthesia is necessary
- Less maternal blood loss
- Easier to learn

Advantages of Forceps Compared to Vacuum

- No contractions are needed
- Easier to apply with caput
- Used with breech presentation
- Pre-term use less controversial
- Less difficult to apply to deflexed head
- Rotation of fetal head accepted practice
- Less incidence of shoulder dystocia

Effectiveness

- Vacuum failure rates range from 2–27%
- Metal cups have slightly higher success rates than plastic cups, but also higher rates of adverse outcomes
- Greater failure rate of vacuum versus forceps when the position was posterior and silastic cup was used
- Highest VE success rate with a non-metal cup was with the M-cup, which has a delivery rate as high as forceps

Question ??

What are the primary indications for use of the vacuum extractor?
Indications

1. **Non-reassuring fetal heart rate**, the most important indication, may include bradycardia, tachycardia, repetitive deep variables or late decelerations.

2. **Maternal exhaustion** is an indication when the mother is unable to complete second stage spontaneously because of inadequate expulsive efforts or ineffective bearing down.

Requirements for Use of a Vacuum Extractor

- Vertex presentation
- Term fetus
- Cervix fully dilated
- Head at least 0 station or no more than 2/5 above symphysis pubis
- Ruptured membranes
- Adequate pelvis – no clinical evidence of CPD (no severe molding)

Contraindications to Use of Vacuum Extractor

- Incompetent or inexperienced provider
- Severe caput
- Prematurity (less than 37 weeks)
- Malpresentation (breech, footling, face, brow, shoulder, transverse)
- Inability to achieve proper suction
- Uncertainty concerning fetal position
- Suspicin of CPD
- Known or suspected fetal coagulation defect
- Prior failed forceps
- OP position of fetus and no posterior cup available

Do Not Continue to Pull If:

- The head does not advance with each pull
- The fetus is undelivered after three contractions without reducing pressure between contractions
- The fetus is undelivered after 20 minutes when pressure is reduced between contractions
- The cup comes off the head and scalp laceration or abrasion is seen.
- The cup comes off the head twice
References


# MODULE 11: BEST PRACTICES IN IMMEDIATE CARE OF THE NEWBORN—SESSION PLAN

## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>Best Practices in Immediate Care of the Newborn</td>
<td>105 min (skills can be integrated into Labor and Childbirth skills session)</td>
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### SESSION OBJECTIVES

**NOTE:** In general, this session will be taught as part of Normal Labor and Birth.

By the end of this session, participants will be able to:

- Define essential elements of early newborn care
- Discuss best practices for promoting newborn health
- Use relevant data and information to develop appropriate essential newborn recommendations

### Methods and Activities

Illustrated presentation/discussion: Best practices in normal newborn care (45 min)

- Use questions and discussion throughout presentation as indicated on slides.
- Respond to questions as they arise during presentation.
- Include role play as indicated in PowerPoint.
- Be sure to include:
  - Global situation of newborn deaths
  - Main causes of newborn mortality
  - Main factors associated with newborn death
  - Essential care for a newborn immediately after birth
  - Key principles and practices of cord care
  - Thermal protection
  - Early and exclusive breastfeeding
  - Breathing initiation and resuscitation
  - Eye care
  - Immunizations
  - Newborn danger signs

Skills demonstration and practice: Normal newborn care (60 min)

- Teacher/facilitator will demonstrate normal newborn care as part of IMMEDIATE NEWBORN CARE and learners will practice skills with coaching by peers and by teacher/facilitator as described in Skills Practice Session: Normal Labor and Childbirth, Active Management of Third Stage of Labor, Birth Assisted with Vacuum Extraction, Episiotomy and Repair, and Repair of First- and Second-degree Lacerations. The teacher/facilitator will focus on the Learning Guide and Checklist for Assisting with Normal Birth for this part of the session.
- The Learning Guide and Checklist for Newborn Assessment can be used as a supplement and/or for reference.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation OR
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Skills Practice Session instruction on AMTSL, Birth Assisted with Vacuum Extraction, Episiotomy and Repair, and Repair of First- and Second-degree Lacerations
- Learning Guide and Checklist for Assisting Normal Birth
- Newborn model
- Thermometer
- High-level disinfected or surgical gloves
- Personal protective barriers
- Blanket for wrapping newborn
- 0.5% chlorine solution and receptacle for decontamination
- Leak-proof container or plastic bag
ROLE PLAY: PARENT EDUCATION AND SUPPORT FOR THE CARE OF THE NEWBORN

The purpose of the role play is to provide an opportunity for participants to understand the importance of individualized advice and counseling for parents of a newborn. The emphasis in the role play is on providing health messages in a way that is nonjudgmental, supportive and encouraging to the parents, while demonstrating good communication skills. There are directions for the facilitator/teacher, together with discussion questions to facilitate discussion after the role play. There is also an answer key. It is important for the facilitator/teacher to become familiar with the answer key before conducting the role play. Although the key contains “likely” responses, other responses provided by participants may be equally acceptable.

DIRECTIONS

The facilitator/teacher will select two participants to perform the following roles: health care provider and mother of newborn. The two participants taking part in the role play should take a few minutes to prepare for the activity by reading the background information provided below. The remaining participants, who will observe the role play, should at the same time read the background information.

The purpose of the role play is to provide an opportunity for participants to develop/practice effective interpersonal skills.

PARTICIPANT ROLES

Health care provider: The health care provider is experienced in the care of newborn babies and has good interpersonal communication skills.

Mother: The mother is from a village in a poor agricultural area; she is 27 years old and illiterate. This is her fourth baby.

SITUATION

Mrs. B. gave birth to a healthy term baby 10 hours ago. The health care provider has noticed that the clothing Mrs. B. has for her baby is not clean. She has also noticed that Mrs. B. has wrapped a piece of unclean cloth tightly around the baby’s abdomen, covering the cord stump.

FOCUS OF THE ROLE PLAY

The focus of the role play is the interpersonal interaction between the health care provider and the mother and the appropriateness of the health messages discussed with her.

DISCUSSION QUESTIONS

1. How did the health care provider demonstrate respect and kindness during her interaction with Mrs. B.?
2. What key health messages related to hygiene and cord care did the health care provider discuss with Mrs. B.?

3. What did the health care provider do to ensure that Mrs. B. understood the health messages?
ROLE PLAY: PARENT EDUCATION AND SUPPORT FOR CARE OF THE NEWBORN—ANSWER KEY

DIRECTIONS

The facilitator/teacher will select two participants to perform the following roles: health care provider and mother of newborn. The two participants taking part in the role play should take a few minutes to prepare for the activity by reading the background information provided below. The remaining participants, who will observe the role play, should at the same time read the background information.

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FOCUS OF THE ROLE PLAY

The focus of the role play is the interpersonal interaction between the health care provider and the mother and the appropriateness of the health messages discussed with her.

DISCUSSION QUESTIONS

1. How did the health care provider demonstrate respect and kindness during her interaction with Mrs. B.?
   a. She addressed her by name and introduced herself.
   b. She made certain that Mrs. B. was seated and comfortable.
   c. She did not criticize or scold Mrs. B. but rather gave gentle but firm advice/counsel on care of her newborn.
   d. She spoke in a calm reassuring manner, using simple, clear and locally understood language and terminology.
   e. She encouraged Mrs. B. to ask questions and listened to her carefully.
   f. The health care provider avoided interrupting Mrs. B. while she was speaking and used the same calm, reassuring manner to answer her questions.
g. Supportive nonverbal behaviors, such as nodding and smiling, were used to let Mrs. B. know that she is being listened to and understood. It is very important not to express judgment about Mrs. B.’s care of her baby.

h. The health care provider showed interest, concern and friendliness.

i. She listened to Mrs. B.’s questions and concerns and responded directly and politely.

2. What key health messages related to hygiene and cord care did the health care provider discuss with Mrs. B.?

a. She explained that the baby will be less likely to develop skin infections and other problems if kept clean, since a baby does not have well developed immune system (way to fight infection).

b. She suggested that everyone who handles or touches the baby should wash her/his hands prior to handling the baby.

c. She suggested that the baby be cleaned and dried after each time its nappy or diaper or cloth is soiled.

d. She should keep the cord dry when bathing the baby.

e. No dressings or substances of any kind should be put on the cord. Also, after the cord falls off, the umbilicus should be kept clean and free from dressings or other substances.

f. If there is swelling, redness or pus from the cord, she could seek help from the care provider immediately.

3. What did the health care provider do to ensure that Mrs. B. understood the health messages?

- She asked if she understood the message.
- She asked her to repeat the message.
- She gave positive reinforcement when Mrs. B. gave the correct answer.
LEARNING GUIDE: ASSESSMENT OF THE NEWBORN  
(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

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<td><strong>HISTORY (Ask the following questions if the information is not available on the mother’s/baby’s record.)</strong></td>
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</tr>
<tr>
<td><strong>Personal Information (First Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>1. What are your name, address and phone number?</td>
<td></td>
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<tr>
<td>2. What are the name and sex of your baby?</td>
<td></td>
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<tr>
<td>3. When was your baby born?</td>
<td></td>
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<tr>
<td>4. Do you have access to reliable transportation?</td>
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<tr>
<td>5. What sources of income/financial support do you/your family have?</td>
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<tr>
<td>6. How many times have you been pregnant and how many children have you had?</td>
<td></td>
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<tr>
<td>7. Is your baby having a particular problem at present? If Yes, find out what the problem is and ask the following additional questions:</td>
<td></td>
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<tr>
<td>- When did the problem first start?</td>
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<tr>
<td>- Did it occur suddenly or develop gradually?</td>
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<tr>
<td>- When and how often does the problem occur?</td>
<td></td>
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<tr>
<td>- What may have caused the problem?</td>
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<tr>
<td>- Did anything unusual occur before it started?</td>
<td></td>
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<tr>
<td>- How does the problem affect your baby?</td>
<td></td>
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<tr>
<td>- Is the baby eating, sleeping, and behaving normally?</td>
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<tr>
<td>- Has the problem become more severe?</td>
<td></td>
</tr>
<tr>
<td>- Are there other signs and conditions related to the problem? If Yes, ask what they are.</td>
<td></td>
</tr>
<tr>
<td>- Has the baby received treatment for the problem? If Yes, ask who provided the treatment, what it involved, and whether it helped.</td>
<td></td>
</tr>
<tr>
<td>8. Has your baby received care from another caregiver? If Yes, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>- Who provided the care?</td>
<td></td>
</tr>
<tr>
<td>- Why did you seek care from another caregiver?</td>
<td></td>
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<tr>
<td>- What did the care involve?</td>
<td></td>
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<tr>
<td>- What was the outcome of this care?</td>
<td></td>
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### LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN
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<td><strong>The Birth (First Visit)</strong></td>
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</tr>
<tr>
<td>9. Where was your baby born and who attended the birth?</td>
<td></td>
</tr>
<tr>
<td>10. Did you have an infection (in the uterus) or fever during labor or birth?</td>
<td></td>
</tr>
<tr>
<td>11. Did you bag of water break more than 18 hours before the birth?</td>
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<tr>
<td>12. Were there any complications during the birth that may have caused injury to the baby?</td>
<td></td>
</tr>
<tr>
<td>13. Did the baby need resuscitation (help to breath) at birth?</td>
<td></td>
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<tr>
<td>14. How much did the baby weigh at birth?</td>
<td></td>
</tr>
<tr>
<td><strong>Maternal Obstetric History of Any Previous Birth</strong></td>
<td></td>
</tr>
<tr>
<td>15. Are all of your children still living?</td>
<td></td>
</tr>
<tr>
<td>16. Have you breastfed before?</td>
<td></td>
</tr>
<tr>
<td><strong>Maternal Medical History (First Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>17. Do you suffer with diabetes?</td>
<td></td>
</tr>
<tr>
<td>18. During pregnancy, did you have any infectious diseases such as hepatitis B, HIV, syphilis or TB?</td>
<td></td>
</tr>
<tr>
<td><strong>Present Newborn Period (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>19. Does the baby have any congenital malformation (birth defect)?</td>
<td></td>
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<tr>
<td>20. Has the baby received newborn immunizations for polio, TB and hepatitis B?</td>
<td></td>
</tr>
<tr>
<td>21. Do you feel good about your baby and your ability to take care of him/her?</td>
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</tr>
<tr>
<td>22. Is your family adjusting to the baby?</td>
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<tr>
<td>23. Do you feel that breastfeeding is going well?</td>
<td></td>
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<tr>
<td>24. How often does the baby feed?</td>
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<tr>
<td>25. Does the baby seem satisfied after feeding?</td>
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<tr>
<td>26. How often does the baby urinate?</td>
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<tr>
<td>27. When was the last time the baby passed stool? What was the color/consistency?</td>
<td></td>
</tr>
<tr>
<td><strong>Interim History (Return Visits)</strong></td>
<td></td>
</tr>
<tr>
<td>28. Is your baby having a problem at present? Has he/she had any problem since the last visit? If Yes, ask the follow-up questions under item 7 above</td>
<td></td>
</tr>
<tr>
<td>29. Has your baby received care from another caregiver since the last visit? If Yes, ask the follow-up questions under item 8 above.</td>
<td></td>
</tr>
<tr>
<td>30. Have there been any changes in your address or phone number since the last visit?</td>
<td></td>
</tr>
<tr>
<td>31. Have there been any changes in the baby’s habits or behaviors since the last visit?</td>
<td></td>
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<tr>
<td>32. Have you been able to care for the baby as discussed at the last visit?</td>
<td></td>
</tr>
<tr>
<td>33. Has the baby had any reactions or side effects from immunizations, drugs/medications or any care provided since the last visit?</td>
<td></td>
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</tbody>
</table>
### LEARNING GUIDE FOR ASSESSMENT OF THE NEWBORN

(Some of the following steps/tasks should be performed simultaneously.)

<table>
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<tr>
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<tr>
<td><strong>EXAMINING THE NEWBORN</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assessment of Overall Appearance/Well-Being (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>1. Again, tell the mother what you are going to do, encourage her to ask questions and listen to what she has to say.</td>
<td></td>
</tr>
<tr>
<td>2. Wash hands thoroughly with soap and water and dry with a clean dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>3. Wear clean examination gloves if the baby has not been bathed since birth, if the cord is touched, or if there is blood, urine and/or stool present.</td>
<td></td>
</tr>
<tr>
<td>4. Place the baby on a clean warm surface or examine him/her in the mother’s arms.</td>
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</tr>
<tr>
<td>5. Weigh the baby.</td>
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</tr>
<tr>
<td>6. Count the respiratory rate for one full minute and observe whether there is grunting or chest indrawing.</td>
<td></td>
</tr>
<tr>
<td>7. Measure the temperature.</td>
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</tr>
<tr>
<td>8. Observe color, noting any central cyanosis, jaundice or pallor.</td>
<td></td>
</tr>
<tr>
<td>10. Observe level of alertness and muscle tone.</td>
<td></td>
</tr>
<tr>
<td>11. Observe skin, noting any bruises, cuts and abrasions.</td>
<td></td>
</tr>
<tr>
<td><strong>Head, Face and Mouth, Eyes</strong></td>
<td></td>
</tr>
<tr>
<td>12. Examine head, noting size and shape.</td>
<td></td>
</tr>
<tr>
<td>13. Examine face, noting facial features and movements.</td>
<td></td>
</tr>
<tr>
<td>15. Examine eyes, noting any swelling, redness, or pus draining from them.</td>
<td></td>
</tr>
<tr>
<td><strong>Chest, Abdomen and Cord, and External Genitalia</strong></td>
<td></td>
</tr>
<tr>
<td>16. Examine chest, noting regularity and symmetry of movements.</td>
<td></td>
</tr>
<tr>
<td>17. Examine abdomen and cord.</td>
<td></td>
</tr>
<tr>
<td>18. Examine genitalia and anus.</td>
<td></td>
</tr>
<tr>
<td><strong>Back and Limbs</strong></td>
<td></td>
</tr>
<tr>
<td>19. Examine back, noting any swelling, lesions, dimples or hairy patches.</td>
<td></td>
</tr>
<tr>
<td>20. Examine all limbs.</td>
<td></td>
</tr>
<tr>
<td>21. Decontaminate gloves before removing them, then if disposing of them, place in a plastic bag or leak-proof, covered container, if reusing them, decontaminate them in 0.5% chlorine solution.</td>
<td></td>
</tr>
<tr>
<td>22. Wash hands thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry.</td>
<td></td>
</tr>
<tr>
<td><strong>Breastfeeding (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>23. Help the woman feel relaxed and confident throughout the observation.</td>
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</tr>
<tr>
<td><strong>24. Look for signs of good positioning:</strong></td>
<td></td>
</tr>
<tr>
<td>• Mother is comfortable with back and arms supported;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s head and body are aligned and abdomen turned toward mother;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s face is facing breast with nose opposite nipple;</td>
<td></td>
</tr>
<tr>
<td>• Baby’s body is held close to mother;</td>
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</tr>
<tr>
<td>• Baby’s whole body is supported.</td>
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</tr>
<tr>
<td><strong>25. Look for signs of good attachment:</strong></td>
<td></td>
</tr>
<tr>
<td>• Nipple and areola are drawn into baby’s mouth;</td>
<td></td>
</tr>
<tr>
<td>• Mouth is wide open;</td>
<td></td>
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<tr>
<td>• Lower lip is curled back below base of nipple.</td>
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</tr>
<tr>
<td><strong>26. Look for signs of effective suckling:</strong></td>
<td></td>
</tr>
<tr>
<td>• Slow deep sucks, often with visible or audible swallowing;</td>
<td></td>
</tr>
<tr>
<td>• Baby pauses occasionally.</td>
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<tr>
<td><strong>27. Look for signs of finishing breastfeed:</strong></td>
<td></td>
</tr>
<tr>
<td>• Baby should release breast him/herself;</td>
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</tr>
<tr>
<td>• Feeding may vary in length from 4 to 40 minutes per breast;</td>
<td></td>
</tr>
<tr>
<td>• Breasts are softer at end of feeding.</td>
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<tr>
<td><strong>Mother-Baby Bonding (Every Visit)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>28. Look for the following signs of bonding:</strong></td>
<td></td>
</tr>
<tr>
<td>• Mother appears to enjoy physical contact with baby;</td>
<td></td>
</tr>
<tr>
<td>• Mother caresses, talks to, and makes eye contact with baby;</td>
<td></td>
</tr>
<tr>
<td>• Mother responds with active concern to baby’s crying or need for attention.</td>
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# CHECKLIST: ASSESSMENT OF THE NEWBORN
(To be used by the Facilitator/Teacher at the end of the module)

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**Not Observed:** Step or task not performed by learner during evaluation by facilitator/teacher

Learner ____________________ Date Observed ____________________

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## SKILL/ACTIVITY PERFORMED SATISFACTORILY

**HISTORY (Ask the following questions if the information is not available on the mother’s/baby’s record.)**

### Personal Information (First Visit)

1. What are your name, address and phone number?
2. What are the name, sex and birth date of your baby?
3. Do you have access to reliable transportation?
4. What sources of income/financial support do you/your family have?
5. How many times have you been pregnant and how many children have you had?
6. Is your baby having a particular problem at present?
7. Has your baby received care from another caregiver?

### The Birth (First Visit)

8. Where was your baby born and who attended the birth?
9. Did you have an infection (in the uterus) or fever during labor or birth?
10. Did you bag of water break more than 18 hours before the birth?
11. Were there any complications during the birth that may have caused injury to the baby?
12. Did the baby need resuscitation (help to breath) at birth?
13. How much did the baby weigh at birth?

### Maternal Medical History (First Visit)

14. Did you have diabetes or any infectious diseases such as hepatitis B, HIV, syphilis or TB during pregnancy?
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### Newborn Period (Every Visit)

15. Does the baby have a congenital malformation (a deformity at birth)?

16. Has the baby received newborn immunizations such as for polio, TB and hepatitis B?

17. Are you and your family adjusting to having and caring for the baby?

18. Do you feel that breastfeeding is going well?

19. How often does the baby feed and is it satisfied after feeding?

20. How often does the baby urinate?

21. When was the last time the baby passed stool? What was the color/consistency?

### Interim History (return Visits)

22. Is your baby having a problem at present? Has he/she had any problem since the last visit?

23. Has your baby received care from another caregiver since the last visit?

24. Have there been any changes in your address or phone number since the last visit?

25. Have there been any changes in the baby’s habits or behaviors since the last visit?

26. Have you been able to care for the baby as discussed at the last visit?

27. Has the baby had any reactions or side effects from immunizations, drugs/medications or any care provided since the last visit?

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

#### EXAMINING THE NEWBORN

**Assessment of Overall Appearance/Well-Being (Every Visit)**

1. Again, tell the mother what you are going to do, encourage her to ask questions and listen to what she has to say.

2. Wash hands thoroughly and put on clean examination gloves, if necessary.

3. Place the baby on a clean warm surface or examine him/her in the mother’s arms.

4. Weigh the baby.

5. Measure respiratory rate and temperature.

6. Observe color, movements and posture, level of alertness and muscle tone, and skin, noting any abnormalities.

7. Examine head, face and mouth, and eyes, noting any abnormalities.

8. Examine chest, abdomen and cord, and external genitalia, noting any abnormalities.

9. Examine back and limbs, noting any abnormalities.

10. Remove gloves and discard them in a leak-proof container or plastic bag if disposing of or decontaminate them in 0.5% chlorine solution if reusing.

11. Wash hands.
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<tr>
<td>16. Look for signs of bonding.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
Because immediate care of the newborn is an integral part of the third stage of labor, steps for immediate care of the newborn cannot be separated from comprehensive care during labor and childbirth. Therefore, this learning guide contains all of the steps of care for normal labor and birth, including immediate care of the newborn.

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<td>1. Prepare the necessary equipment.</td>
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<tr>
<td>2. Encourage the woman to adopt the position of choice and continue spontaneous bearing-down efforts.</td>
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<tr>
<td>3. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
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<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
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<tr>
<td>5. Put on personal protective barriers.</td>
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<tr>
<td><strong>ASSISTING THE BIRTH</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
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<tr>
<td>3. Clean the woman’s perineum with a cloth or compress, wet with antiseptic solution or soap and water, wiping from front to back.</td>
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<tr>
<td>4. Place one sterile drape from delivery pack under the woman’s buttocks, one over her abdomen, and use the third drape to receive the baby.</td>
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</tr>
<tr>
<td><strong>Birth of the Head</strong></td>
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<tr>
<td>5. Ask the woman to pant or give only small pushes with contractions as the baby’s head is born. (Put blanket or towel on woman’s abdomen.)</td>
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<tr>
<td>6. As the pressure of the head thins out the perineum, control the birth of the head with the fingers of one hand, applying a firm, gentle downward (but not restrictive) pressure to maintain flexion, allow natural stretching of the perineal tissue, and prevent tears.</td>
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<tr>
<td>7. Use the other hand to support the perineum using a compress or cloth, and allow the head to crown slowly and be born spontaneously.</td>
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<tr>
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<tr>
<td>8. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose with a clean cloth.</td>
<td></td>
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</tbody>
</table>
| 9. Feel around the baby’s neck to ensure the umbilical cord is not around the neck:  
  - If the cord is around the neck but is loose, slip it over the baby’s head;  
  - If the cord is loose but cannot reach over the baby’s head, slip it backwards over the shoulders;  
  - If the cord is tight around the neck, clamp the cord with two artery forceps, placed 3 cm apart, and cut the cord between the two clamps. |       |
| **Completing the Birth**                                                 |       |
| 10. Allow the baby’s head to turn spontaneously.                         |       |
| 11. After the head turns, place a hand on each side of the baby’s head, over the ears, and apply slow, gentle pressure downward (toward the mother’s spine) and outward until the anterior shoulder slips under the pubic bone. |       |
| 12. When the arm fold is seen, guide the head upward toward the mother’s abdomen as the posterior shoulder is born over the perineum. |       |
| 13. Lift the baby’s head anteriorly to deliver the posterior shoulder.    |       |
| 14. Move the topmost hand from the head to support the rest of the baby’s body as it slides out. |       |
| 15. Place the baby on the mother’s abdomen (if the mother is unable to hold the baby, ask her birth companion or an assistant to care for the baby). |       |
| 16. Thoroughly dry the baby and cover with a clean, dry cloth:  
  - Assess breathing while drying the baby and if s/he does not breathe immediately, begin resuscitative measures (see Learning Guide: Newborn Resuscitation).  
  - Note time of birth. |       |
| 17. Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest, and cover the baby with a cloth or blanket, including the head. |       |
| 18. Palpate the mother’s abdomen to rule out the presence of additional baby(ies) and proceed with active management of the third stage. |       |
| **ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR**                           |       |
| 1. Give oxytocin 10 units IM.                                            |       |
| 2. Clamp and cut the umbilical cord after pulsations have ceased or approximately 2–3 minutes after the birth, whichever comes first:  
  - Tie the cord at about 3 cm and 5 cm from the umbilicus.  
  - Cut the cord between the ties.  
  - Place the infant on the mother’s chest. |       |
| 3. Clamp the cord close to the perineum and hold the clamped cord and the end of the clamp in one hand. |       |
| 4. Place the other hand just above the pubic bone and gently apply counter traction (push upwards on the uterus) to stabilize the uterus and prevent uterine inversion. |       |
| 5. Keep light tension on the cord and wait for a strong uterine contraction (two to three minutes). |       |
LEARNING GUIDE FOR ASSISTING NORMAL BIRTH  
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. When the uterus becomes rounded or the cord lengthens, very gently pull downward on the cord to deliver the placenta.</td>
<td></td>
</tr>
<tr>
<td>7. Continue to apply counter traction with the other hand.</td>
<td></td>
</tr>
<tr>
<td>8. If the placenta does not descend during 30 to 40 seconds of controlled cord traction, relax the tension and repeat with the next contraction.</td>
<td></td>
</tr>
<tr>
<td>9. As the placenta delivers, hold it with both hands and twist slowly so the membranes are expelled intact:</td>
<td></td>
</tr>
<tr>
<td>- If the membranes do not slip out spontaneously, gently twist them into a rope and move up and down to assist separation without tearing them.</td>
<td></td>
</tr>
<tr>
<td>10. Slowly pull to complete delivery.</td>
<td></td>
</tr>
<tr>
<td>11. Massage the uterus if it is not well contracted. Note time of delivery of placenta.</td>
<td></td>
</tr>
</tbody>
</table>

**Examination of Placenta**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Hold placenta in palms of hands, with maternal side facing upwards, and check whether all lobules are present and fit together.</td>
<td></td>
</tr>
<tr>
<td>13. Hold cord with one hand and allow placenta and membranes to hang down:</td>
<td></td>
</tr>
<tr>
<td>- Insert fingers of other hand inside membranes, with fingers spread out, and inspect membranes for completeness;</td>
<td></td>
</tr>
<tr>
<td>- Note position of cord insertion.</td>
<td></td>
</tr>
</tbody>
</table>

**Examination of Vagina and Perineum for Tears**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Gently separate the labia and inspect lower vagina for lacerations/tears.</td>
<td></td>
</tr>
<tr>
<td>15. Inspect the perineum for lacerations/tears.</td>
<td></td>
</tr>
<tr>
<td>16. Gently cleanse the perineum with warm water and a clean cloth.</td>
<td></td>
</tr>
<tr>
<td>17. Apply a clean pad or cloth to the vulva.</td>
<td></td>
</tr>
<tr>
<td>18. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.)</td>
<td></td>
</tr>
</tbody>
</table>

**POST-PROCEDURE TASKS**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Place any contaminated items (e.g., swabs) in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>3. Decontaminate needles and or syringes:</td>
<td></td>
</tr>
<tr>
<td>- If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;</td>
<td></td>
</tr>
<tr>
<td>- If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>4. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>- If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;</td>
<td></td>
</tr>
<tr>
<td>- If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: ASSISTING NORMAL BIRTH
( Including Care of the Normal Newborn)
(To be used by the Facilitator/Teacher at the end of the module)

Because immediate care of the newborn is an integral part of the third stage of labor, steps for immediate care of the newborn cannot be separated from comprehensive care during labor and childbirth. Therefore, this learning guide contains all of the steps of care for normal labor and birth, including immediate care of the newborn.

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

Participant ______________________ Date Observed ______________________

<table>
<thead>
<tr>
<th>CHECKLIST FOR ASSISTING NORMAL BIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Some of the following steps/tasks should be performed simultaneously.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
</table>

**GETTING READY**

1. Prepare the necessary equipment.
2. Encourage the woman to adopt the position of choice and continue spontaneous bearing down efforts.
3. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.
4. Provide continual emotional support and reassurance, as feasible.
5. Put on personal protective barriers.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**ASSISTING THE BIRTH**

1. Wash hands thoroughly, put on high-level disinfected or sterile surgical gloves, and place drapes from the delivery pack on the woman.
2. Clean the woman’s perineum, and ask her to pant or give only small pushes with contractions.
3. Control the birth of the head with the fingers of one hand to maintain flexion, allow natural stretching of the perineal tissue, and prevent tears, and use the other hand to support the perineum.
4. Wipe the mucus (and membranes, if necessary) from the baby’s mouth and nose.
5. Feel around the baby’s neck for the cord and respond appropriately if the cord is present.
6. Allow the baby’s head to turn spontaneously and, with the hands on either side of the baby’s head, deliver the anterior shoulder.
### CHECKLIST FOR ASSISTING NORMAL BIRTH
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>When the arm fold is seen, guide the head upward as the posterior shoulder is born over the perineum and lift the baby’s head anteriorly to deliver the posterior shoulder.</td>
</tr>
<tr>
<td>8.</td>
<td>Support the rest of the baby’s body with one hand as it slides out, and place the baby on the mother’s abdomen.</td>
</tr>
<tr>
<td>9.</td>
<td>Thoroughly dry the baby and cover with a clean, dry cloth, and assess breathing. If baby does not breathe immediately, begin resuscitative measures (see Checklist 7: Newborn Resuscitation).</td>
</tr>
<tr>
<td>10.</td>
<td>Ensure the baby is kept warm and in skin-to-skin contact on the mother’s chest. Note time of birth.</td>
</tr>
<tr>
<td>11.</td>
<td>Palpate the mother’s abdomen to rule out the presence of additional baby(ies) and proceed with active management of the third stage.</td>
</tr>
</tbody>
</table>

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

#### ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR

1. If no additional baby, give oxytocin 10 units IM within 1 minute of birth.
2. Clamp and cut the cord approximately 3 minutes after birth.
3. Wait for a uterine contraction.
4. With hand above public bone, apply pressure in an upward direction (towards the woman’s head) to apply counter traction and stabilize the uterus.
5. At the same time with the other hand, pull with a firm, steady tension on the cord in a downward direction (follow direction of the birth canal.)
6. Deliver placenta slowly with both hands, gently turning the entire placenta and lifting it up and down until membranes deliver.
7. Immediately after placenta delivers, massage uterus until firm. Note time of delivery of placenta.
8. Examine the placenta, membranes and cord.
9. Inspect the vulva, perineum and vagina for lacerations/tears and carry out appropriate repair as needed.
10. Cleanse perineum and apply a pad or cloth to vulva.
11. Assist the mother to a comfortable position for continued breastfeeding and bonding with her newborn. (Further assessment and immunization of the newborn can occur later before the mother is discharged or the skilled attendant leaves.)
12. Massage uterus and check amount of bleeding every 15 minutes (more often if needed) for 2 hours, making sure the uterus does not get soft after you stop massaging.

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

#### POST-PROCEDURE TASKS

1. Dispose of contaminated items in a plastic bag or leak-proof, covered waste container.
2. Decontaminate instruments by placing in a container filled with 0.5% chlorine solution for 10 minutes.
### CHECKLIST FOR ASSISTING NORMAL BIRTH

*(Some of the following steps/tasks should be performed simultaneously.)*

<p>| | | | |</p>
<table>
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<tr>
<th></th>
<th></th>
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  - If disposing of needle and syringe, hold the needle under the surface of a 0.5% chlorine solution, fill the syringe, and push out (flush) three times; then place in a puncture-resistant sharps container;  
  - If reusing the syringe (and needle), fill syringe with needle attached with 0.5% chlorine solution and soak in chlorine solution for 10 minutes for decontamination. |   |   |
| 4. | Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:  
  - If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container;  
  - If reusing surgical gloves, submerge in 0.5% chlorine solution for 20 minutes for decontamination. |   |   |
| 5. | Wash hands thoroughly. |   |   |

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
KNOWLEDGE ASSESSMENT: IMMEDIATE CARE OF THE NEWBORN

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The main causes of newborn mortality are:
   a. Asphyxia, pneumonia and tetanus
   b. Tetanus, diarrhea and preterm birth
   c. Infections, asphyxia and preterm birth
   d. Diarrhea, tetanus and congenital anomalies

2. Routine immunizations at birth include:
   a. BCG (for tuberculosis) and oral polio
   b. Hepatitis B (HBV) and BCG
   c. Tetanus and whooping cough
   d. a) and b)
   e. All of the above

3. Infants at risk of needing resuscitation include:
   a. Infants who showed fetal distress during labor
   b. Infants born in breech presentation
   c. Infants with thick meconium
   d. Every infant

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Two-thirds of newborn deaths from infection are the result of lack of hygiene during the birth and postpartum and lack of skilled attendant at birth. ____

5. After cutting and cleaning, the umbilical cord should be covered with a clean cloth that is kept dry and is changed once each day (or more often if it becomes soiled). ____

6. Appropriate thermal protection of the newborn requires that the baby be bathed within 6 hours of birth in water that is 36.5–38.0°C. ____

7. Erythromycin eye drops are more effective than silver nitrate or povidone-iodine in preventing newborn eye infections. ____
KNOWLEDGE ASSESMENT: IMMEDIATE CARE OF THE NEWBORN—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The main causes of newborn mortality are:
   a. Asphyxia, pneumonia and tetanus
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Two-thirds of newborn deaths from infection are the result of lack of hygiene during the birth and postpartum and lack of skilled attendant at birth. TRUE

5. After cutting and cleaning, the umbilical cord should be covered with a clean cloth that is kept dry and is changed once each day (or more often if it becomes soiled). FALSE

6. Appropriate thermal protection of the newborn requires that the baby be bathed within 6 hours of birth in water that is 36.5–38.0°C. FALSE

7. Erythromycin eye drops are more effective than silver nitrate or povidone-iodine in preventing newborn eye infections. FALSE
Session Objective

- Define essential elements of early newborn care
- Discuss best practices for promoting newborn health
- Use relevant data and information to develop appropriate recommendations for essential newborn care

Newborn Deaths

Every year:

- 8.1 million infant deaths
- 4 million neonatal deaths
  - 40% of all under-five mortality
- Eight neonatal deaths every minute
- 4 million stillbirths
- Under-five and under-one mortality has declined significantly – but NMR has declined little

Question ??

- What are the main causes of newborn mortality?
Causes of Newborn Death

- Tetanus: 7%
- Sepsis/pneumonia: 27%
- Asphyxia: 7%
- Sepsis: 11%
- Other causes: 3%
- Congenital: 14%
- Diarrhea: 3%
- Preterm: 28%
- Infection: 36%

Risk by Week of Life for the First 5 Years: The Early Postnatal Period

- Early neonatal (Day 0-6): 25
- Late neonatal (Day 7-28): 1.66
- Post-neonatal (1-11 months): 0.54
- Age 12-59 months: 0.14

Newborn Deaths

- Birth process was the antecedent cause of 2/3 of deaths due to infections:
  - Lack of hygiene at childbirth and during newborn period
  - Home deliveries without skilled birth attendants
- Birth asphyxia in developing countries:
  - 3% of newborns suffer mild to moderate birth asphyxia
  - Prompt resuscitation is often not initiated or procedure is inadequate or incorrect

Newborn Deaths (cont.)

- Low birth weight:
  - An extremely important factor in newborn mortality
- Hypothermia and newborn deaths:
  - Significant contribution to deaths in low birth weight infants and preterm newborns
  - Social, cultural and health practices delaying care to the newborn
- Countries with high STI prevalence and inconsistent prophylactic practices:
  - Ophthalmia neonatorum is a common cause of blindness

Risk of death per each week of life during the first 5 years of life, based on global average mortality rates.
Newborn Deaths (cont.)

Place of childbirth:
- Up to 2 out of 3 childbirths in most developing countries occur at home
- Only half are attended by skilled birth attendants

Strategies for improving newborn health should target:
- Birth attendant, families and communities
- Health care providers within the formal health system

Question ??

- What is the essential care for a newborn immediately after birth?

Essential Newborn Care Interventions

- Clean childbirth and cord care:
  - Prevent newborn infection
- Thermal protection:
  - Prevent and manage newborn hypo/hyperthermia
- Early and exclusive breastfeeding:
  - Started within 1 hour after childbirth
- Initiation of breathing and resuscitation:
  - Early asphyxia identification and management

Essential Newborn Care Interventions (cont.)

- Eye care:
  - Prevent and manage ophthalmia neonatorum
- Immunization:
  - At birth: Bacille Calmette-Guerin (BCG) vaccine, oral poliovirus vaccine (OPV) and hepatitis B virus (HBV) vaccine (WHO)
- Identification and management of sick newborn
- Care of preterm and/or low birth weight newborn
Cleanliness to Prevent Infection

- Principles of cleanliness essential in both home and health facilities childbirths
- Principles of cleanliness at childbirth:
  - Clean hands
  - Clean perineum
  - Nothing unclean introduced vaginally
  - Clean delivery surface
  - Cleanliness in cord clamping and cutting
  - Cleanliness for cord care

Cleanliness to Prevent Infection (cont.)

- Infection prevention/control measures at health care facilities and after discharge
- Caretaker and all others should wash hands before touching or caring for baby
- Avoid contact with sick children and adults

Question ??

- What are the key principles and practices in cord care?

Cord Care

- Do not apply dressings or substances of any kind
- If cord bleeds, re-tie
- Usually falls off 4–7 days after birth
- Until the cord falls off, place the cord outside the nappy to prevent contamination with urine/feces
- Wash with soap and clean water only (if soiled)
Thermal Protection

- Newborn physiology:
  - Normal temperature: 36.5–37.5°C
  - Hypothermia: < 36.5°C
  - Stabilization period: 1st 6–12 hours after birth:
    - Large surface area
    - Poor thermal insulation
    - Small body mass to produce and conserve heat
    - Inability to change posture or adjust clothing to respond to thermal stress
- Increased hypothermia:
  - Newborn left wet while waiting for delivery of placenta
  - Early bathing of newborn (within 24 hours)

Hypothermia Prevention

- Deliver in a warm room
- Dry newborn thoroughly and wrap in dry, warm cloth
- Give to mother as soon as possible:
  - Skin-to-skin contact first few hours after childbirth
  - Promotes bonding
  - Enables early breastfeeding
- Check warmth by feeling newborn’s feet every 15 minutes
- Bathe after temperature is stable (after 24 hours)

Early and Exclusive Breastfeeding

- Early contact between mother and newborn:
  - Enables breastfeeding
  - Rooming-in policies in health facilities prevents nosocomial infection
- Best practices;
  - No prelacteal feeds or other supplement
  - Giving first breastfeed within 1 hour of birth
  - Correct positioning to enable good attachment of the newborn
  - Breastfeeding on demand
  - Psycho-social support to breastfeeding mother

Early and Exclusive Breastfeeding (cont.)

- Starting to breastfeed:
  - Colostrum is the first milk secreted and is important for the baby for nutrition and disease protection
  - Most babies are ready to feed 15-55 minutes after birth; success at the first feeding often indicates successful later breastfeeding
- Self-attachment:
  - Place baby face down on mother’s abdomen
  - Support baby as it moves toward breast
  - Allow the baby time to mouth the nipple before taking it into the mouth

**Early and Exclusive Breastfeeding (cont.)**

Signs that baby is getting enough milk:
- The baby passes urine at least 6 times in 24 hours
- You can hear the baby swallow the feeding
- The mother’s breast feels softer after a feed
- The baby gains weight over time (after the first week)
- The baby seems content after feeding


**Breathing Initiation and Resuscitation**

- Spontaneous breathing (> 30 breaths/min.) in most babies:
  - Gentle stimulation, if at all
- Newborn resuscitation may be needed:
  - Fetal distress
  - Thick meconium staining
  - Vaginal breech deliveries
  - Preterm
- Effectiveness of routine oro-nasal suctioning unknown:
  - Biologically plausible advantages – clear airway
  - Potentially real disadvantages – cardiac arrhythmia
  - Bulb suctioning preferred (but every baby should have own bulb to prevent infection transmission)


**Povidone-Iodine for Conjunctivitis: Objective and Design**

- Objective: To determine incidence and type of conjunctivitis after povidone-iodine in Kenya
- Design: Rotate regimen weekly: erythromycin, silver nitrate, povidone iodine
  - More infections in silver nitrate than povidone-iodine, OR 1.76, p < 0.001
  - More infections in erythromycin than in povidone-iodine OR 1.38, p=0.001


**Povidone-Iodine for Conjunctivitis: Conclusion**

- Povidone-iodine:
  - Is good prophylaxis
  - Has wider antibacterial spectrum
  - Causes greater reduction in colony-forming units and number of bacterial species
  - Is active against viruses
  - Is inexpensive

Immunization
- BCG vaccinations in all population at high risk of tuberculosis infection
- Single dose of OPV at birth or in the 2 weeks after birth
- HBV vaccination as soon as possible where perinatal infections are common

Counseling
Even if the mother is being discharged a few hours after childbirth, she should be counseled about:
- Exclusive breastfeeding
- Hygiene – eye and cord care
- Thermal protection
- Danger signs and what to do about them

Role Play
Conduct and discuss role play as described in handout.

Question ??
What are the newborn danger signs?
Complication Readiness Plan

Newborn danger signs:
- Breathing difficulty
- Convulsion, spasms, loss of consciousness, or arching of back
- Cyanosis (blueness)
- Hot to touch (fever)
- Cold to touch
- Bleeding
- Jaundice (yellowness)
- Pallor
- Diarrhea
- Persistent vomiting or abdominal distension
- Not feeding or poor sucking
- Pus or redness of umbilicus, eyes or skin
- Swollen limb or joint
- Floppiness
- Lethargy

Summary

The essential components of normal newborn care include:
- Clean delivery and cord care
- Thermal protection
- Early and exclusive breastfeeding
- Monitoring
- Eye care
- Immunization

References


Ganges F. 2006. Normal Newborn Care, a presentation in Accra, Ghana, Basic Maternal and Newborn Care Technical Update. (April).

References (cont.)


# MODULE 12: BEST PRACTICES IN POSTPARTUM CARE OF THE MOTHER—SESSION PLAN

## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Postpartum Care of the Mother</td>
<td>50 min</td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

*By the end of this session, participants will be able to:*
- Describe the significance of postpartum care
- Describe client assessment during the postpartum period
- Describe the elements of care provision of the postpartum mother

### Methods and Activities | Materials/Resources
--- | ---
Illustrated presentation/discussion: Basic postpartum care (30 min) | Boxlight projector
- Ask questions of the larger group throughout the session.
- Intersperse presentation with questions, examples and discussion.
- Be sure to include:
  - Neglect of postpartum care
  - Elements of basic postpartum care:
    - Breastfeeding and Breast Care *(NOTE: can delete 5 slides on breastfeeding if you plan to follow with the breastfeeding presentation)*
    - Complication readiness including maternal postpartum danger signs
    - Support for mother-baby-family relationships
    - Family planning
    - Nutritional support
    - Self-care
    - HIV counseling and testing
    - Immunizations and other preventive care
    - Follow-up visits

Case Study (20 min) | PowerPoint presentation
- Participants divide into groups of three or four.
- Each group should read through the Case Study: Postpartum Care and answer the questions.
- Reassemble the group and discuss the answers.
(Depending on class needs and time, a Demonstration of Postpartum Care can be conducted.)
CASE STUDY: POSTPARTUM ASSESSMENT AND CARE

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. A. is 18 years of age and gave birth to her first baby at home 10 days ago. Her pregnancy, labor and birth were uncomplicated. The midwife who attended the birth checked Mrs. A. and her baby the day after the birth. She has not seen a health care provider since then. This is her first postpartum clinic visit. Mrs. A. has come to the clinic because she has sore, red nipples. Her baby is with her.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. A.?

ASSESSMENT
(Information gathering through history, physical examination and testing)

2. What history will you include in your assessment of Mrs. A., and why?

3. What physical examination will you include in your assessment of Mrs. A., and why?

4. What laboratory tests will you include in your assessment of Mrs. A., and why?

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. A, and your main findings include the following:

History:
- Mrs. A. is feeling well but has sore, red nipples.
- She reports that the baby breastfeeds approximately every 2 hours.
- All other aspects of her history are normal or without significance.

Physical Examination:
- Mrs. A generally appears well.
- Vital signs are as follows: BP is 110/72; pulse is 76 beats per minute; temperature is 37.6°C.
• There is no redness, tenderness, streaking or masses palpable in the breast tissue; however, during observation of breastfeeding, it was found that the baby was not attaching well to the breast.
• All findings on examination of the baby are within normal range and without significance.
• All other aspects of her physical examination are within normal range and without significance.

Testing:

HIV test is negative.

5. Based on these findings, what is Mrs. A.'s diagnosis (problem/need), and why?

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. A., and why?

EVALUATION

7. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
CASE STUDY: POSTPARTUM ASSESSMENT AND CARE
(BREASTFEEDING DIFFICULTY)—ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. A. is 18 years of age and gave birth to her first baby at home 10 days ago. Her pregnancy, labor and birth were uncomplicated. The midwife who attended the birth checked Mrs. A. and her baby the day after the birth. She has not seen a health care provider since then. This is her first postpartum clinic visit. Mrs. A. has come to the clinic because she has sore, red nipples. Her baby is with her.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. A.?
   - Mrs. A should be greeted respectfully and with kindness and offered a seat to help her feel comfortable and welcome, establish rapport and build trust. Her baby should also be warmly acknowledged. A good relationship helps to ensure that the client will adhere to the care plan and return for continued care.
   - Ascertain, from other staff or from records, whether or not Mrs. A. and her baby have had a Quick Check. If not, you should conduct a Quick Check now. The Quick Check detects signs/symptoms of life-threatening complications so that a woman or newborn receives the urgent care required before receiving routine assessment/care.

ASSESSMENT

(Information gathering through history, physical examination and testing)

2. What history will you include in your assessment of Mrs. A., and why?
   - Because this is Mrs. A.’s first postpartum visit, you should take a complete history (i.e., personal information, daily habits and lifestyle, history of present pregnancy and labor childbirth, present postpartum period, obstetric history, contraceptive history/plans, medical history, iron supplementation) to guide further assessment and help individualize care provision. Some responses may help determine whether point toward reasons for her sore, red nipples, and/or indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.
   - Special emphasis should be given to obtaining information about how the baby is doing and how breastfeeding is going, because she is complaining of breast problems.
3. What physical examination will you include in your assessment of Mrs. A., and why?

- Because this is Mrs. A.’s first postpartum visit, you should perform a complete physical examination (i.e., general well-being, vital signs, breast inspection and palpation, abdomen [uterus/involution, bladder], leg examination, and genital examination [lochia, perineum]) to guide further assessment and help individualize care provision. Some findings may help determine whether point toward reasons for her sore, red nipples, and/or indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.
- Special attention should be given to the examination of Mrs. A.’s breasts to determine possible causes of her discomfort.
- Mrs. A. should be observed breastfeeding her baby to check positioning, attachment and suckling, and her comfort during breastfeeding.
- Mrs. A’s baby should also be examined (e.g., overall appearance/well-being; head, face and mouth, eyes; chest, abdomen, cord stump, external genitalia, and anus; back and limbs; breastfeeding; and mother-baby bonding) to assess for potential problems.

4. What laboratory tests will you include in your assessment of Mrs. A., and why?

You should conduct an HIV test if available and as needed (if status is unknown and she does not “opt out”), to guide further assessment and help individualize care provision. A positive result would indicate a special need/condition that requires additional care.

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. A and your main findings include the following:

History:
- Mrs. A. is feeling well but has sore, red nipples.
- She reports that the baby breastfeeds approximately every 2 hours.
- All other aspects of her history are normal or without significance.

Physical Examination:
- Mrs. A. generally appears well.
- Vital signs are as follows: BP is 110/72; pulse is 76 beats per minute; temperature is 37.6°C.
- There is no redness, tenderness, streaking or masses palpable in the breast tissue; however, during observation of breastfeeding, it was found that the baby was not attaching well to the breast.
- All findings on examination of the baby are within normal range and without significance.
- All other aspects of her physical examination are within normal range and without significance.
Testing:

HIV test is negative.

5. Based on these findings, what is Mrs. A.'s diagnosis (problem/need), and why?

- Mrs. A. has sore, red nipples related to difficulty attaching the baby to the breast. This is her first baby and her first experience with breastfeeding.

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. A., and why?

- Mrs. A. should receive basic care provision (i.e., breastfeeding and breast care, complication readiness plan, nutritional support, support for mother-baby-family relationships, self-care and other healthy practices, HIV counseling, immunizations and other preventive measures as well as about newborn care), which will help support and maintain a healthy postpartum/newborn period. The following emphases should be included:
  - Mrs. A. should be encouraged and reassured about practicing exclusive breastfeeding on demand.
  - Additional counseling and support should be provided on attachment and positioning for breastfeeding. Mrs. A. should be able to help her baby attach to the breast correctly before leaving the clinic.
  - Mrs. A. should be asked to return to the clinic in 2 days so that attachment and positioning for breastfeeding can be checked again, and additional support and encouragement provided.

EVALUATION

- Mrs. A. returns to the clinic in 2 days.
- You find that her nipples are less sore and red, and attachment has improved, although the problem has not fully resolved.
- Mrs. A. is very eager to continue breastfeeding.

7. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Mrs. A. should again be encouraged and reassured about continuing exclusive breastfeeding on demand to prevent discouragement or discontinuation of breastfeeding.
- Breastfeeding should be observed and Mrs. A. should be counseled again about attachment and positioning at the breast to ensure continued success at breastfeeding.
- The baby should be weighed to ensure adequate intake.
- Mrs. A. should be asked to return to the clinic every 2 days until the problem has fully resolved.
- Once the problem is resolved, she should be asked to return for follow-up 6 weeks postpartum, or before then if she has questions or concerns.
LEARNING GUIDE: POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(To be used by Participants)

Place a “✓” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
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<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
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<tr>
<td>1. Prepare the necessary equipment.</td>
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<tr>
<td>2. Greet the woman respectfully and with kindness.</td>
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<tr>
<td>3. Tell the woman (and her support person) what is going to be done, listen to her attentively and respond to her questions and concerns.</td>
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<tr>
<td>4. Provide continual emotional support and reassurance, as possible.</td>
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<tr>
<td><strong>HISTORY (Ask the following questions if the information is not available on the woman’s record.)</strong></td>
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<tr>
<td>Personal Information (Every Visit for items followed with an “*”): First Visit for other items</td>
<td></td>
</tr>
<tr>
<td>1. What are your name and age, and the name of your baby?</td>
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<tr>
<td>• If the woman is less than 20 years old, determine the circumstances surrounding the pregnancy (e.g., unprotected sex, multiple partners, incest, sexual abuse, rape, sexual exploitation, prostitution, forced marriage or forced sex).</td>
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<tr>
<td>1. What are your address and your phone number?</td>
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<tr>
<td>2. Do you have access to reliable transportation?</td>
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<tr>
<td>3. What sources of income/financial support do you/your family have?</td>
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<tr>
<td>4. How many times have you been pregnant and how many children have you had?</td>
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<tr>
<td>5. How many of your children are still living?</td>
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</table>
### LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>6. Are you having a particular problem at present?* If Yes, find out what the problem is and ask the following additional questions:</td>
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<tr>
<td>• When did the problem first start?</td>
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<td>• Did it occur suddenly or develop gradually?</td>
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<tr>
<td>• When and how often does the problem occur?</td>
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<tr>
<td>• What may have caused the problem?</td>
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<td>• Did anything unusual occur before it started?</td>
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<tr>
<td>• How does the problem affect you?</td>
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<tr>
<td>• Are you eating, sleeping and doing other things normally?</td>
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<tr>
<td>• Has the problem become more severe?</td>
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<tr>
<td>• Are there other signs and conditions related to the problem? If Yes, ask what they are.</td>
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<tr>
<td>• Have you received treatment for the problem? If Yes, ask who provided the treatment, what it involved, and whether it helped.</td>
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<tr>
<td>7. Have you received care from another caregiver?* If Yes, ask the following additional questions:</td>
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<tr>
<td>• Who provided the care?</td>
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<tr>
<td>• Why did you seek care from another caregiver?</td>
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<tr>
<td>• What did the care involve?</td>
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<tr>
<td>• What was the outcome of this care?</td>
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<tr>
<td><strong>Daily Habits and Lifestyle (Every Visit for items followed with an “*”; First Visit for other items)</strong></td>
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<tr>
<td>9. Do you work outside the home?</td>
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<tr>
<td>10. Do you walk long distances, carry heavy loads or do physical labor? *</td>
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<tr>
<td>11. Do you get enough sleep/rest?</td>
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<tr>
<td>12. What do you normally eat and drink in a day?</td>
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<tr>
<td>13. Do you eat any substances such as dirt or clay?</td>
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<tr>
<td>14. Do you smoke, drink alcohol or use any other possibly harmful substances?</td>
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<tr>
<td>15. Whom do you live with?</td>
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<tr>
<td>16. Has anyone ever prevented you from seeing family or friends, stopped you from leaving your home or threatened your life?</td>
<td></td>
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<tr>
<td>17. Have you ever been injured, hit or forced to have sex by someone?</td>
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<tr>
<td>18. Are you frightened of anyone?</td>
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<tr>
<td><strong>Present Pregnancy and Childbirth (First Visit)</strong></td>
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<tr>
<td>19. When did you have your baby?</td>
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<tr>
<td>20. Where did you have your baby and who attended the birth?</td>
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<tr>
<td>21. Did you have any vaginal bleeding during this pregnancy?</td>
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<tr>
<td>22. Did you have any complications during this childbirth, such as convulsions (pre-eclampsia/eclampsia), cesarean section or other uterine surgery, vaginal or perineal tears, episiotomy or defibulation?</td>
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<tr>
<td>23. Were there any complications with the baby?</td>
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<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td><strong>Present Postpartum Period (Every Visit)</strong></td>
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<tr>
<td>24. Have you had any heavy bleeding since you gave birth?</td>
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<tr>
<td>25. What color is your vaginal discharge and how often do you need to change your pad/cloth?</td>
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<tr>
<td>26. Have you had any problems with bowel or bladder function (e.g., incontinence, leakage of urine/feces from vagina, burning on urination, inability to urinate when urge is felt, constipation)?</td>
<td></td>
</tr>
<tr>
<td>27. Do you feel good about your baby and your ability to take care of her/him? If No, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>• Are you feeling sad or overwhelmed?</td>
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<tr>
<td>• Are you not eating or sleeping well?</td>
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<tr>
<td>• Have you been crying or feeling more irritable than usual?</td>
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<tr>
<td>28. Is your family adjusting to the baby?</td>
<td></td>
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<tr>
<td>29. Do you feel that breastfeeding is going well?</td>
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</tr>
<tr>
<td><strong>Previous Postpartum History (First Visit)</strong></td>
<td></td>
</tr>
<tr>
<td>30. Have you breastfed a baby before? If Yes, ask the following additional questions:</td>
<td></td>
</tr>
<tr>
<td>• For how long did you breastfeed your baby(ies)?</td>
<td></td>
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<tr>
<td>• Did you have any previous problems breastfeeding?</td>
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<tr>
<td>31. Did you have any complications, such as convulsions (pre-eclampsia/eclampsia) or postpartum depression/psychosis following previous births?</td>
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<tr>
<td><strong>Contraceptive History (First Visit)</strong></td>
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<tr>
<td>32. How many more children do you plan to have and how long do you want to wait until the next pregnancy?</td>
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<tr>
<td>33. Have you used a family planning method before? If Yes, ask the following additional questions:</td>
<td></td>
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<tr>
<td>• Which method(s) have you used?</td>
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<tr>
<td>• Did you like the method(s) and why?</td>
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<tr>
<td>• Which method did you like the most and why? (if more than one method used)</td>
<td></td>
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<tr>
<td>• Would you like information about other methods?</td>
<td></td>
</tr>
<tr>
<td>34. Are you going to use family planning in the future?</td>
<td></td>
</tr>
<tr>
<td><strong>Medical History (Every Visit for items followed with an “*”; First Visit for other items)</strong></td>
<td></td>
</tr>
<tr>
<td>35. Do you have any allergies?</td>
<td></td>
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<tr>
<td>36. Have you been tested for HIV? If Yes, ask whether the result was positive.</td>
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<tr>
<td>37. Have you had anemia recently (within the last 3 months)? If Yes, obtain additional information about signs and symptoms and possible cause.</td>
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<tr>
<td>38. Have you been tested for syphilis? If Yes, ask whether the result was positive and if and when and with what she was treated.</td>
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<tr>
<td>39. Have you had any chronic illness/condition, such as tuberculosis, hepatitis, heart disease, diabetes or any other chronic illness?</td>
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<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
<td>40. Have you ever been in hospital or had surgery/an operation?</td>
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<tr>
<td>41. Are you taking any drugs/medications, including traditional/local</td>
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<tr>
<td>preparations, herbal remedies, over-the-counter drugs, vitamins and</td>
<td></td>
</tr>
<tr>
<td>dietary supplements?*</td>
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<tr>
<td>42. Have you had a complete series of five tetanus toxoid immunizations?</td>
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</tr>
<tr>
<td>43. When did you have your last booster of tetanus toxoid?</td>
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</tbody>
</table>

**Interim History (Return Visits)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
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<tbody>
<tr>
<td>44. Do you have a problem at present? If Yes, ask follow-up questions</td>
<td></td>
</tr>
<tr>
<td>under “Personal Information” item 7, above.</td>
<td></td>
</tr>
<tr>
<td>45. Have you had any problems since your last visit?</td>
<td></td>
</tr>
<tr>
<td>46. Has your address or phone number changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>47. Have your daily habits or lifestyle (workload, rest, dietary</td>
<td></td>
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<tr>
<td>intake) changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>48. Have you received care from another caregiver since your last visit?</td>
<td></td>
</tr>
<tr>
<td>If Yes, ask who provided the care, what care was provided and what the</td>
<td></td>
</tr>
<tr>
<td>outcome of care was.</td>
<td></td>
</tr>
<tr>
<td>49. Have you taken drugs/medications prescribed and followed the</td>
<td></td>
</tr>
<tr>
<td>advice/recommendations (plan of care) provided at your last visit?</td>
<td></td>
</tr>
<tr>
<td>50. Have you had any reactions to or side effects from immunizations or</td>
<td></td>
</tr>
<tr>
<td>drugs/medications given at your last visit?</td>
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**PHYSICAL EXAMINATION**

**Assessment of General Well-Being (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</thead>
<tbody>
<tr>
<td>1. Observe gait and movements, and behavior and facial expressions.</td>
<td></td>
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<tr>
<td>• If not normal for the woman’s culture, ask if she has:</td>
<td></td>
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<tr>
<td>- Been without food or drink for a prolonged period</td>
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<tr>
<td>- Been taking drugs/medications</td>
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<tr>
<td>- Had an injury</td>
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<tr>
<td>2. Observe general cleanliness, noting visible dirt and odor.</td>
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<tr>
<td>3. Check skin, noting lesions and bruises.</td>
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<tr>
<td>4. Check conjunctiva for pallor.</td>
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</table>

**Vital Signs Measurements (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>5. Have the woman remain seated and relaxed.</td>
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<tr>
<td>6. Measure blood pressure, temperature and pulse.</td>
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</table>

**Breast Examination (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>7. Explain the next steps in the physical examination to the woman</td>
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<tr>
<td>and obtain her consent to proceed.</td>
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<tr>
<td>8. Ask the woman to empty her bladder.</td>
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<tr>
<td>9. Wash hands thoroughly with soap and water and dry with a clean, dry</td>
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<tr>
<td>cloth or air dry.</td>
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</table>
### LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE

(Some of the following steps/tasks should be performed simultaneously.)

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<tbody>
<tr>
<td>10. Ask the woman to uncover her body from the waist up, and have her lie comfortably on her back.</td>
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<tr>
<td>11. Check the contours and skin of the breasts, noting dimpling or visible lumps, scaliness, thickening, redness, lesions, sores and rashes.</td>
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<tr>
<td>12. Gently palpate breasts, noting tenderness and swelling, and areas that are red and hot.</td>
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<tr>
<td>13. Check nipples, noting pus or bloody discharge, cracks, fissures or other lesions, and whether nipples are inverted.</td>
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<tr>
<td><strong>Abdominal Examination (Every Visit)</strong></td>
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<tr>
<td>14. Ask the woman to uncover her stomach.</td>
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<tr>
<td>15. Have her lie on her back with her knees slightly bent.</td>
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<tr>
<td>16. Look for old or new incisions on the abdomen:</td>
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<tr>
<td>- If there is an incision (sutures) from cesarean section or other uterine surgery, look for signs of infection.</td>
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<tr>
<td>17. Gently palpate abdomen between umbilicus and symphysis pubis, noting size and firmness of uterus.</td>
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<tr>
<td>18. Check whether bladder is palpable above the symphysis pubis.</td>
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<tr>
<td><strong>Leg Examination (Every Visit)</strong></td>
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<tr>
<td>19. Grasp one of the woman’s feet with one hand and gently but firmly move the foot upwards toward the woman’s knee, and observe whether this causes pain in the calf.</td>
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<tr>
<td>20. Repeat the procedure on the other leg.</td>
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<tr>
<td><strong>Vaginal Examination (Every Visit)</strong></td>
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<tr>
<td>21. Ask the woman to uncover her genital area and cover or drape her to preserve privacy and modesty.</td>
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<tr>
<td>22. Ask the woman to separate her legs while continuing to bend her knees slightly.</td>
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<tr>
<td>23. Turn on the light and direct it toward genital area.</td>
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<tr>
<td>24. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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<tr>
<td>25. Put new examination or high-level disinfected gloves on both hands.</td>
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<tr>
<td>26. Touch the inside of the woman’s thigh before touching any part of her genital area.</td>
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<tr>
<td>27. Separate labia majora with two fingers, and check labia minora, clitoris, urethral opening, and vaginal opening, noting swelling, tears, episiotomy, defibulation, sores, ulcers, warts, nits, lice, or urine or stool coming from vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>28. Palpate the labia minora, noting swelling, discharge, tenderness, ulcers, fistulas, irregularities and nodules.</td>
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</tr>
<tr>
<td>29. Look at perineum, noting scars, lesions, inflammation, or cracks in skin, bruising, and color, odor and amount of lochia.</td>
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</table>
### LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE

(Some of the following steps/tasks should be performed simultaneously.)

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<tbody>
<tr>
<td>30. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
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</tr>
<tr>
<td>• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>31. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>

**CARE PROVISION**

**Note:** Individualize the woman’s care by considering all information gathered during assessment.

**HIV Counseling**

1. If the woman does not know her HIV status or has not been tested for HIV, provide HIV counseling, covering:
   - Individual risk factors for HIV/AIDS
   - How the virus is transmitted
   - Local myths and false rumors about HIV/AIDS
   - HIV testing and the results

**Breastfeeding and Breast Care**

2. Based on the woman’s breastfeeding history, provide information about the following:
   - Exclusive breastfeeding on demand
   - Comfortable positions for breastfeeding and use of both breasts
   - Adequate rest and sleep
   - Extra fluid and food intake
   - Breast care.

**Complication Readiness**

3. Review the woman’s complication readiness plan with her (or develop one if she does not have one), covering:
   - Arrangements made since last visit
   - Changes
   - Obstacles or problems encountered

**Mother-Baby-Family Relationships**

4. Encourage family involvement with the newborn and assist the family to identify challenges/obstacles and devise strategies for overcoming them.
### LEARNING GUIDE FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Family Planning</strong></td>
<td></td>
</tr>
<tr>
<td>5. Introduce the concepts of birth spacing and family planning:</td>
<td></td>
</tr>
<tr>
<td>• Discuss the woman’s previous experience with and beliefs about contraception, as well as her preferences.</td>
<td></td>
</tr>
<tr>
<td>• Discuss the lactational amenorrhea method and its benefits, and provide necessary counseling if client chooses this method.</td>
<td></td>
</tr>
<tr>
<td>• Advise on the availability and accessibility of family planning services.</td>
<td></td>
</tr>
<tr>
<td><strong>Nutritional Support</strong></td>
<td></td>
</tr>
<tr>
<td>6. Provide advice and counseling about diet and nutrition:</td>
<td></td>
</tr>
<tr>
<td>• All postpartum women should eat a balanced diet and a variety of foods rich in iron and vitamin A, calcium, magnesium and vitamin C;</td>
<td></td>
</tr>
<tr>
<td>• Women who are breastfeeding should:</td>
<td></td>
</tr>
<tr>
<td>- Eat two additional servings of staple food per day</td>
<td></td>
</tr>
<tr>
<td>- Eat three additional servings of calcium-rich foods</td>
<td></td>
</tr>
<tr>
<td>- Drink at least eight glasses of fluid (two liters) each day (including milk, water and juices)</td>
<td></td>
</tr>
<tr>
<td>- Eat smaller more frequent meals, if necessary</td>
<td></td>
</tr>
<tr>
<td>- Avoid alcohol and tobacco</td>
<td></td>
</tr>
<tr>
<td>- Try to decrease amount of heavy work and increase rest time</td>
<td></td>
</tr>
<tr>
<td><strong>Self-Care and Other Healthy Behaviors</strong></td>
<td></td>
</tr>
<tr>
<td>7. Provide advice and counseling about:</td>
<td></td>
</tr>
<tr>
<td>• Prevention of infection/hygiene</td>
<td></td>
</tr>
<tr>
<td>• Rest and activity</td>
<td></td>
</tr>
<tr>
<td>• Sexual relations and safer sex</td>
<td></td>
</tr>
<tr>
<td><strong>IMMUNIZATIONS AND OTHER PROPHYLAXIS</strong></td>
<td></td>
</tr>
<tr>
<td>8. Give tetanus toxoid (TT) based on woman’s need.</td>
<td></td>
</tr>
<tr>
<td>9. Dispense sufficient supply of iron/folate until next visit and counsel the woman about the following:</td>
<td></td>
</tr>
<tr>
<td>• Eat food rich in vitamin C</td>
<td></td>
</tr>
<tr>
<td>• Avoid tea, coffee, and colas</td>
<td></td>
</tr>
<tr>
<td>• Possible side effects and management</td>
<td></td>
</tr>
<tr>
<td>10. Dispense medications as follows:</td>
<td></td>
</tr>
<tr>
<td>• Antimalarial tablets (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>• Mebendazole (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>• Vitamin A (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td>• Iodine (based on region/population-specific need)</td>
<td></td>
</tr>
<tr>
<td><strong>Return Visits</strong></td>
<td></td>
</tr>
<tr>
<td>11. Schedule the next postnatal visit:</td>
<td></td>
</tr>
<tr>
<td>• Make sure the woman knows when and where to come.</td>
<td></td>
</tr>
<tr>
<td>• Answer any additional questions or concerns.</td>
<td></td>
</tr>
<tr>
<td>• Advise her to bring her records with her to each visit.</td>
<td></td>
</tr>
<tr>
<td>• Make sure she understands that she can return any time before the next scheduled visit if she has a problem.</td>
<td></td>
</tr>
<tr>
<td>• Review danger signs and key points of the complication readiness plan.</td>
<td></td>
</tr>
<tr>
<td>• Thank the woman for coming.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE  
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✓” in case box if step/task is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by facilitator/teacher during evaluation by facilitator/teacher

Participant __________________________ Date Observed __________________

<table>
<thead>
<tr>
<th>CHECKLIST FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Greet the woman respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>3. Tell the woman (and her support person) what is going to be done, listen to her attentively, and respond to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as possible.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**HISTORY** (Ask the following questions if the information is not available on the woman’s record.)

**Personal Information (Every Visit for items followed with an “**”; First Visit for other items)**

1. What are your name and age, and the name of your baby?  
2. What are your address and your phone number?  
3. Do you have access to reliable transportation?  
4. What sources of income/financial support do you/your family have?  
5. How many times have you been pregnant and how many children have you had?  
6. How many of your children are still living?  
7. Are you having a particular problem at present?*  
8. Have you received care from another caregiver?*  

**Daily Habits and Lifestyle (Every Visit for items followed with an “**”; First Visit for other items)**

9. Do you work outside the home?*  
10. Do you walk long distances, carry heavy loads or do physical labor?*  
11. Do you get enough sleep/rest?*  
12. What do you normally eat in a day?*
### CHECKLIST FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Do you eat any substances such as dirt or clay?</td>
<td></td>
</tr>
<tr>
<td>14. Do you smoke, drink alcohol or use any other possibly harmful substances?</td>
<td></td>
</tr>
<tr>
<td>15. Who do you live with?</td>
<td></td>
</tr>
<tr>
<td>16. Has anyone ever prevented you from seeing family or friends, stopped you from leaving your home, or threatened your life?</td>
<td></td>
</tr>
<tr>
<td>17. Have you ever been injured, hit or forced to have sex by someone?</td>
<td></td>
</tr>
<tr>
<td>18. Are you frightened of anyone?</td>
<td></td>
</tr>
</tbody>
</table>

**Present Pregnancy and Childbirth (First Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>19. When did you have your baby?</td>
<td></td>
</tr>
<tr>
<td>20. Where did you have your baby and who attended the birth?</td>
<td></td>
</tr>
<tr>
<td>21. Did you have any vaginal bleeding during this pregnancy?</td>
<td></td>
</tr>
<tr>
<td>22. Did you have any complications during this childbirth?</td>
<td></td>
</tr>
<tr>
<td>23. Were there any complications with the baby?</td>
<td></td>
</tr>
</tbody>
</table>

**Present Postpartum Period (Every Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Have you had any heavy bleeding since you gave birth?</td>
<td></td>
</tr>
<tr>
<td>25. What color is your vaginal discharge and how often do you need to change your pad/cloth?</td>
<td></td>
</tr>
<tr>
<td>26. Have you had any problems with bowel or bladder function?</td>
<td></td>
</tr>
<tr>
<td>27. Do you feel good about your baby and your ability to take care of her/him?</td>
<td></td>
</tr>
<tr>
<td>28. Is your family adjusting to the baby?</td>
<td></td>
</tr>
<tr>
<td>29. Do you feel that breastfeeding is going well?</td>
<td></td>
</tr>
</tbody>
</table>

**Previous Postpartum History (First Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Have you breastfed a baby before?</td>
<td></td>
</tr>
<tr>
<td>31. Did you have any complications following previous childbirths?</td>
<td></td>
</tr>
</tbody>
</table>

**Contraceptive History (First Visit)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. How many more children do you plan to have?</td>
<td></td>
</tr>
<tr>
<td>33. Have you used a family planning method before?</td>
<td></td>
</tr>
<tr>
<td>34. Are you going to use family planning in the future?</td>
<td></td>
</tr>
</tbody>
</table>

**Medical History (Every Visit for items followed with an “*”; First Visit for other items)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</tr>
</thead>
<tbody>
<tr>
<td>35. Do you have any allergies?</td>
<td></td>
</tr>
<tr>
<td>36. Have you been tested for HIV?</td>
<td></td>
</tr>
<tr>
<td>37. Have you had anemia recently?</td>
<td></td>
</tr>
<tr>
<td>38. Have you been tested for syphilis?</td>
<td></td>
</tr>
<tr>
<td>39. Have you had any chronic illness/condition, such as tuberculosis, hepatitis, heart disease, diabetes or any other chronic illness?</td>
<td></td>
</tr>
<tr>
<td>40. Have you ever been in hospital or had surgery/an operation?</td>
<td></td>
</tr>
</tbody>
</table>
## CHECKLIST FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE
(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>41. Are you taking any drugs/medications, including traditional/local</td>
<td></td>
</tr>
<tr>
<td>preparations, herbal remedies, over-the-counter drugs, vitamins and</td>
<td></td>
</tr>
<tr>
<td>dietary supplements?*</td>
<td></td>
</tr>
<tr>
<td>42. Have you had a complete series of five tetanus toxoid immunizations?</td>
<td></td>
</tr>
<tr>
<td>43. When did you have your last booster of tetanus toxoid?</td>
<td></td>
</tr>
<tr>
<td><strong>Interim History (Return Visits)</strong></td>
<td></td>
</tr>
<tr>
<td>44. Do you have a problem at present?</td>
<td></td>
</tr>
<tr>
<td>45. Have you had any problems since your last visit?</td>
<td></td>
</tr>
<tr>
<td>46. Has your address or phone number changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>47. Have your daily habits or lifestyle (workload, rest, dietary intake)</td>
<td></td>
</tr>
<tr>
<td>changed since your last visit?</td>
<td></td>
</tr>
<tr>
<td>48. Have you received care from another caregiver since your last visit?</td>
<td></td>
</tr>
<tr>
<td>49. Have you taken drugs/medications prescribed and followed the</td>
<td></td>
</tr>
<tr>
<td>advice/recommendations (plan of care) provided at your last visit?</td>
<td></td>
</tr>
<tr>
<td>50. Have you had any reactions to or side effects from immunizations or</td>
<td></td>
</tr>
<tr>
<td>drugs/medications given at your last visit?</td>
<td></td>
</tr>
<tr>
<td><strong>SKILL/ACTIVITY PERFORMED SATISFACTORILY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PHYSICAL EXAMINATION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Observe gait and movements, and behavior and facial expressions.</td>
<td></td>
</tr>
<tr>
<td>2. Observe general hygiene, noting visible dirt and odor.</td>
<td></td>
</tr>
<tr>
<td>3. Check skin, noting lesions and bruises.</td>
<td></td>
</tr>
<tr>
<td>4. Check conjunctive for pallor.</td>
<td></td>
</tr>
<tr>
<td>5. Have the woman remain seated and relaxed, and measure her blood</td>
<td></td>
</tr>
<tr>
<td>pressure, temperature and pulse.</td>
<td></td>
</tr>
<tr>
<td>6. Explain the next steps in the physical examination to the woman and</td>
<td></td>
</tr>
<tr>
<td>obtain her consent to proceed.</td>
<td></td>
</tr>
<tr>
<td>7. Ask the woman to empty her bladder.</td>
<td></td>
</tr>
<tr>
<td>8. Wash hands thoroughly.</td>
<td></td>
</tr>
<tr>
<td>9. Ask the woman to uncover her body from the waist up, have her lie</td>
<td></td>
</tr>
<tr>
<td>comfortably on her back, and examine her breasts, noting any</td>
<td></td>
</tr>
<tr>
<td>abnormalities.</td>
<td></td>
</tr>
<tr>
<td>10. Ask the woman to uncover her stomach and lie on her back with her</td>
<td></td>
</tr>
<tr>
<td>knees slightly bent.</td>
<td></td>
</tr>
<tr>
<td>11. Look for old or new incisions on the abdomen, and gently palpate</td>
<td></td>
</tr>
<tr>
<td>abdomen between umbilicus and symphysis pubis, noting size and</td>
<td></td>
</tr>
<tr>
<td>firmness of uterus, and check whether bladder is palpable above the</td>
<td></td>
</tr>
<tr>
<td>symphysis pubis.</td>
<td></td>
</tr>
<tr>
<td>12. Examine the woman’s legs, noting any calf pain.</td>
<td></td>
</tr>
<tr>
<td>13. Ask the woman to uncover her genital area, cover or drape her to</td>
<td></td>
</tr>
<tr>
<td>preserve privacy and modesty, and ask her to separate her legs.</td>
<td></td>
</tr>
<tr>
<td>14. Turn on the light and direct it toward genital area.</td>
<td></td>
</tr>
</tbody>
</table>
### CHECKLIST FOR POSTPARTUM ASSESSMENT (HISTORY AND PHYSICAL EXAMINATION) AND CARE

(Some of the following steps/tasks should be performed simultaneously.)

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<tbody>
<tr>
<td>15. Wash hands thoroughly and put new examination or high-level disinfected gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>16. Inspect/examine labia, clitoris, and perineum, noting lochia, scars, bruising and skin integrity.</td>
<td></td>
</tr>
<tr>
<td>17. Immerse both gloved hands briefly in a container filled with 0.5% chlorine solution; then remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves (examination gloves and surgical gloves that will not be reused), place in a plastic bag or leak-proof, covered waste container.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 20 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>18. Wash hands thoroughly.</td>
<td></td>
</tr>
</tbody>
</table>

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

**CARE PROVISION**

**Note:** Individualize the woman’s care by considering all information gathered during assessment.

1. If the woman does not know her HIV status or has not been tested for HIV, provide HIV counseling.
2. Based on the woman’s breastfeeding history, provide information about breastfeeding and breast care.
3. Review the woman’s complication readiness plan with her (or develop one if she does not have one).
4. Encourage family involvement with the newborn and assist the family to identify challenges/obstacles and devise strategies for overcoming them.
5. Introduce the concepts of birth spacing and family planning, including LAM.
6. Provide advice and counseling about diet and nutrition.
7. Provide advice and counseling about self-care.
8. Give tetanus toxoid (TT) based on woman’s need.
9. Dispense sufficient supply of iron/folate until next visit and counsel the woman about taking the pills.
10. Dispense other medications based on need.
11. Schedule the next postnatal visit.

### SKILL/ACTIVITY PERFORMED SATISFACTORILY
KNOWLEDGE ASSESSMENT: POSTPARTUM CARE OF THE MOTHER

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Breastfeeding should continue without the addition of other foods or fluids:
   a. For the first 4 months
   b. For the first 6 months
   c. For the first 9 months

2. Messages to the postpartum mother concerning sexual relations include:
   a. Increased susceptibility to STIs by the postpartum woman, and increased risk of MTCT of HIV if new infection acquired during breastfeeding
   b. Abstinence or mutually monogamous sex with uninfected partner
   c. Consistent use of condoms
   d. All of the above

3. Messages concerning which of the following subjects should be part of postpartum care for every woman?
   a. Breastfeeding and breast care and complication readiness
   b. Nutritional support and HIV counseling
   c. Support for mother-baby-family relationships and family planning
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Only the woman who has tested negative for HIV should practice early and exclusive breastfeeding. _____

5. The postpartum woman should eat a diet that is diversified and include one extra (two extra if breastfeeding) serving of staple food per day. _____

6. The woman who has not received a tetanus immunization during pregnancy does not need to be given a tetanus immunization during the postpartum period. _____
KNOWLEDGE ASSESSMENT: POSTPARTUM CARE OF THE MOTHER—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Breastfeeding should continue without the addition of other foods or fluids:
   a. For the first 4 months
   b. For the first 6 months
   c. For the first 9 months

2. Messages to the postpartum mother concerning sexual relations include:
   a. Increased susceptibility to STIs by the postpartum woman, and increased risk of MTCT of HIV if new infection acquired during breastfeeding
   b. Abstinence or mutually monogamous sex with uninfected partner
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   d. All of the above

3. Messages concerning which of the following subjects should be part of postpartum care for every woman?
   a. Breastfeeding and breast care and complication readiness
   b. Nutritional support and HIV counseling
   c. Support for mother-baby-family relationships and family planning
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Only the woman who has tested negative for HIV should practice early and exclusive breastfeeding.  
   FALSE

5. The postpartum woman should eat a diet that is diversified and include one extra (two extra if breastfeeding) serving of staple food per day.  
   TRUE

6. The woman who has not received a tetanus immunization during pregnancy does not need to be given a tetanus immunization during the postpartum period.  
   FALSE
Session Objective

By end of the session, participants will be able to:
- Describe the significance of postpartum care
- Describe client assessment during the postpartum period
- Describe the elements of care provision of the postpartum mother

Basic Postpartum Care Provision

- Mother and baby should be seen at 6 hours after birth, and again before discharge if in a facility; or approximately 6 hours after birth if delivered at home
- Every mother and baby should be visited again by a provider or trained community health worker by 72 hours after birth

When is the mother most vulnerable? (Evidence from Matlab, Bangladesh)
4 Million Newborn Deaths - When?

- Up to 50% of neonatal deaths are in the first 24 hours.
- 75% of neonatal deaths are in the first week – 5 million deaths.


Neglected Area of Care

- Few women in Africa receive postpartum care.
- An estimated 70% of women in developing countries, do NOT receive postpartum care.
- In a study by Forte et al. of 29 countries, those women who received PPC receive it within 2 days, but for the other nine countries, the peak of PPC occurs 7–41 days after birth.

(Forte A et al. 2006. Postpartum Care Levels and Determinants in Developing Countries.)

Basic Postpartum Care Provision (cont.)

During every visit:
- Assessment of condition of mother and baby
- Provide all elements of basic care package
- If abnormal s/s (based on assessment), provide additional care
- Integrate maternal and newborn care visits when possible

During return visit:
- Make necessary changes to care plan (based on assessment)
- Review and update mother’s and newborn’s complication readiness plan
- Reinforce key messages
- Replenish supply of supplements and drugs/medications

Note: Information gathered through assessment should be taken into consideration during care provision.

What basic care should be included in care of the postpartum mother?
Basic Postpartum Care Provision (cont.)

- Ongoing supportive care up to discharge
- Basic care package:
  - Breastfeeding and breast care
  - Complication readiness plan
  - Support for mother-baby-family relationships
  - Family planning
  - Nutritional support
  - Self-care and other healthy practices
  - HIV counseling and testing
  - Immunizations and other preventive measures

Breastfeeding and Breast Care

- Early and exclusive breastfeeding (if HIV- or HIV status unknown; or HIV+ woman makes informed decision to exclusively breastfeed)
- Feeding guidelines
- Additional advice for woman
- Breast care
- Breastfeeding information and support – provide as needed

Question ??

- For how many months is it recommended that a woman should continue breastfeeding?

Breastfeeding and Breast Care (cont.)

Feeding guidelines:

- Breastfeed exclusively for first 6 months – no other food or fluids
- Breastfeed on demand day and night – every 2–3 hours during first weeks
Breastfeeding and Breast Care (cont.)

Additional advice:
- Choose position that is comfortable and effective
- Use both breasts at each feed; do not limit time at either
- Ensure adequate sleep/rest – take nap when baby sleeps
- Ensure adequate food/fluid intake – glass of fluids per feed; extra meal per day

Breastfeeding and Breast Care (cont.)

Breast care:
- To prevent engorgement, breastfeed every 2–3 hours
- Wear supportive (but not tight) bra or binder
- Keep nipples clean and dry
- Wash nipples with water only once per day – no soap
- After breastfeeding, leave milk on nipples and allow to air dry

Complication Readiness Plan

At first visit after birth:
- Introduce concept and each element
- Assist in developing plan

Return visits:
- Check arrangements made
- Note changes and problems

Components:
- Appropriate health care facility for emergency care
- Emergency transportation
- Emergency funds
- Decision-maker/decision-making process
- Support person/companion
- Blood donor
- Danger signs for mother and newborn

Complication Readiness Plan (cont.)

Danger signs: ensure that woman and family know danger signs for her and her newborn that indicate need to enact complication readiness plan
Question ??

- Turn to the person sitting next to you and make a list of the maternal postpartum danger signs.
- After 4 minutes, one or two pairs can volunteer to read their list.

Complication Readiness Plan (cont.)

Maternal danger signs:
- Vaginal bleeding (heavy or sudden increase)
- Breathing difficulty
- Fever
- Severe abdominal pain
- Severe headache/blurred vision
- Convulsions/loss of consciousness
- Foul-smelling discharge from vagina or tears/incisions
- Pain in calf, with or without swelling
- Verbalization/behavior indicating she may hurt self or baby; hallucinations

Support for Mother-Baby-Family Relationships

- As soon as possible after birth, discuss issues mentioned on following slides with woman and, if she permits, partner/family
- Return visits, check progress made in integrating care of baby into daily life

Support for Mother-Baby-Family Relationships (cont.)

- Bonding:
  - Encourage touching, holding, exploring
  - Encourage rooming-in

- Challenges:
  - Discuss woman’s increased need for rest and (if breastfeeding) intake of food/fluids
  - Discuss woman’s increased workload
Support for Mother-Baby-Family Relationships (cont.)

- **Support:**
  - Encourage sharing in care of newborn
  - Assist in devising strategies for overcoming challenges

- **Information:**
  - Discuss key aspects of postpartum and newborn care
  - Encourage questions

Support for Mother-Baby-Family Relationships (cont.)

- **Encouragement and praise:**
  - Help build confidence
  - Provide reassurance that woman is capable of caring for newborn

Family Planning

- **Discuss:**
  - Birth spacing – healthy timing and spacing:
    - Intervals of 2–5 years beneficial to women and babies
  - Woman’s previous experience, beliefs, preferences regarding contraception
  - Safe methods for postpartum women – benefits and limitations of each
  - Available methods and how to access them

Family Planning (cont.)

- **Discuss (cont.):**
  - Return of fertility after birth:
    - Variable
    - Ovulation can occur before menstruation resumes
  - Women who are not breastfeeding may ovulate by 21 days
  - 5–10% of women conceive within first year postpartum
  - Women who breastfeed exclusively for 6 months ovulate by 7 months (due to lactational amenorrhea)
**Family Planning (cont.)**

- Discuss (cont.):
  - Benefits of LAM and how to use LAM successfully, for women who choose this method
  - Dual protection with condoms
- Assist the woman in choosing a method that best meets her needs and fertility goals
- Ensure that she receives an appropriate method or has access to the service

**Nutritional Support**

**General guidelines:**

- Eat balanced diet including variety of foods each day
- Have at least one extra serving of staple food per day
- Try smaller, more frequent meals if necessary
- Take micronutrient supplements as directed:
  - Folic acid, vitamin A, zinc, calcium, iron and other nutrients if micronutrient requirements cannot be met through food sources

**Nutritional Support (cont.)**

**Guidelines for breastfeeding women:**

- Per day:
  - Two extra servings of staple food per day
  - Eat a diverse diet with animal products and fortified foods – no specific foods should be eaten or avoided
  - Drink in response to thirst—excessive fluids not needed
  - Give Vitamin A supplement where deficiency is common – Two 200,000 unit doses should be given
  - Use iodized salt
- Decrease workload; increase rest
- Also, avoid alcohol and tobacco, which can decrease milk production

**Self-Care and Other Healthy Practices**

**Tips:**

- Individualize messages based on woman’s history and other relevant findings
- Encourage woman’s partner to be present during these discussions
Prevention of infection/hygiene:
- Good general hygiene (handwashing, safe food and water preparation/handling, bathing and general cleanliness)
- Good genital hygiene – especially important for postpartum women because more susceptible to infection

Good genital hygiene (cont.):
- Keep vulvar/vaginal area clean and dry
- Wash hands before and after touching
- Wash genitals after using toilet
- Change pads 6 times/day in first week; then 2 times/day

Rest and activity:
- Increase rest time:
  - All postpartum women need additional rest to speed recovery
  - Breastfeeding women need even more rest
- Wait at least 4 to 5 weeks to resume normal activity; start back gradually

Sexual relations and safer sex:
- Avoid sex for at least 2 weeks and until it is comfortable
- Increased susceptibility to STIs during postpartum period
- Abstinence or mutually monogamous sex with uninfected partner – only sure protection
- Consistent use of condoms
- Avoidance of sexual practices that may further increase risk of infection (e.g., anal sex)
HIV Counseling and Testing

- 1st visit:
  - Ensure confidentiality of testing and all HIV-related discussion
  - Provide pretest counseling
- Return visit (after testing): provide post-test counseling

Immunization and Other Preventive Measures

- Tetanus toxoid immunization
- Iron/folate supplementation
- Region/population-specific preventive measures, e.g., malaria prevention

Immunization and Other Preventive Measures (cont.)

<table>
<thead>
<tr>
<th>TT Injection</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT 1</td>
<td>At first contact with woman of childbearing age or as early as possible in pregnancy (at 1st ANC visit)</td>
</tr>
<tr>
<td>TT 2</td>
<td>At least 4 weeks after TT 1</td>
</tr>
<tr>
<td>TT 3</td>
<td>At least 6 months after TT 2</td>
</tr>
<tr>
<td>TT 4</td>
<td>At least 1 year after TT 3</td>
</tr>
<tr>
<td>TT 5</td>
<td>At least 1 year after TT 4</td>
</tr>
</tbody>
</table>

Iron/folate supplementation:

- To prevent anemia, prescribe: iron 60 mg + folate 400 mcg orally once daily for 3 months
- Dispense supply to last until next visit
- Eat foods rich in vitamin C, which help iron absorption
- Avoid tea, coffee and colas, which inhibit iron absorption
- Possible side effects of iron/folate – black stools, constipation and nausea
**Immunization and Other Preventive Measures (cont.)**

In areas of endemic disease/deficiency:
- Insecticide-treated nets (ITNs) for malaria – both mother and baby should sleep under one
- Presumptive treatment for hookworm infection
- Vitamin A supplements
- Iodine supplements

**Scheduling a Return Visit**

- Advise her to bring her partner or other companion with her if possible
- Ensure that she understands that she should not wait for next appointment if she or newborn is having problems or develops any danger sign
- Review maternal and newborn danger signs and complication readiness plan

**Case Study**

- Divide participants into groups of 3 or 4
- Each group should read the Case Study: Postpartum Care and answer the questions
- Reassemble the group and discuss the answers

**Summary**

Postpartum care provision includes:
- Ongoing supportive care up to discharge
- Basic care provision for mother and newborn:
  - Breastfeeding and breast care
  - Complication readiness plan
  - Support for mother-baby-family relationships
  - Newborn care
  - Family planning
  - Nutritional support
  - Self-care and other healthy practices
  - HIV counseling and testing
  - Immunizations and other preventive measures
- Care is individualized according to woman’s and newborn’s needs, history and other findings
References

Ganges F. 2006. Postpartum Care, a presentation in Accra, Ghana, Basic Maternal and Newborn Care Technical Update. (April).


SUPPLEMENTARY MODULE 12.1: BEST PRACTICES IN BREASTFEEDING SUPPORT—SESSION PLAN

MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Breastfeeding Support</td>
<td>90 min</td>
</tr>
</tbody>
</table>

SESSION OBJECTIVES

By the end of this session, participants will be able to:
- Define exclusive and non-exclusive breastfeeding
- Counsel mother and family on breastfeeding
- State interventions during labor, birth and postpartum that positively and negatively affect breastfeeding
- Recognize correct attachment and effective sucking
- Counsel mother on the management of breastfeeding problems
- Discuss natural instinct of a newborn to crawl up mother’s abdomen to breast immediately after birth

Methods and Activities

<table>
<thead>
<tr>
<th>Methods and Activities</th>
<th>Materials/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illustrated presentation/discussion: Focused antenatal care (30 min)</td>
<td>Boxlight projector</td>
</tr>
<tr>
<td></td>
<td>Powerpoint Presentation OR</td>
</tr>
<tr>
<td></td>
<td>Overhead projector with transparencies (Handouts of presentations if no electricity)</td>
</tr>
<tr>
<td></td>
<td>Expressing breast milk handouts (steps and illustration)</td>
</tr>
<tr>
<td></td>
<td>Managing problems handouts</td>
</tr>
<tr>
<td></td>
<td>Video: Delivery self-attachment</td>
</tr>
<tr>
<td>Video and discussion: Delivery self-attachment (30 min)</td>
<td></td>
</tr>
<tr>
<td>Role Play (30 min)</td>
<td></td>
</tr>
<tr>
<td>Divide participants into groups of two.</td>
<td></td>
</tr>
<tr>
<td>One participant counsels the other on expression of breast milk using guide.</td>
<td></td>
</tr>
<tr>
<td>Participants switch roles.</td>
<td></td>
</tr>
</tbody>
</table>
KNOWLEDGE ASSESSMENT: BREASTFEEDING SUPPORT

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Advantages to the baby of breastfeeding include:
   a. Easily digested
   b. Supports immune system to prevent infection
   c. Promotes optimal brain development
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Advantages of breastfeeding to the mother include:
   a. Promotes involution of uterus
   b. Promotes maternal-infant bonding
   c. Prevents conception for the first year
   d. a) and b)
   e. b) and c)
   f. All of the above

3. Components of effective attachment and sucking include:
   a. Alignment of infant’s ear, shoulder and hip
   b. Infant’s lips are turned slightly inward during sucking
   c. Can hear infant swallowing
   d. a) and c)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Exclusive breastfeeding is recommended for the first 9 months. ______

5. Bathing the baby gently with warm water prior to its first feed promotes successful breastfeeding. ______

6. If not breastfeeding, a woman may ovulate as early as 21 days postpartum. ______
**Knowledge Assessment: Breastfeeding Support—Answer Key**

**Instructions:** Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Advantages to the baby of breastfeeding include:
   a. Easily digested
   b. Supports immune system to prevent infection
   c. Promotes optimal brain development
   d. a) and b)
   e. a) and c)
   f. **All of the above**

2. Advantages of breastfeeding to the mother include:
   a. Promotes involution of uterus
   b. Promotes maternal-infant bonding
   c. Prevents conception for the first year
   d. **a) and b)**
   e. **b) and c)**
   f. **All of the above**

3. Components of effective attachment and sucking include:
   a. Alignment of infant’s ear, shoulder, and hip
   b. Infants lips are turned slightly inward during sucking
   c. Can hear infant swallowing
   d. **a) and c)**
   e. **All of the above**

**Instructions:** In the space provided, print a capital T if the statement is **true** or a capital F if the statement is **false**.

4. Exclusive breastfeeding is recommended for the first 9 months.  
   - **FALSE**

5. Bathing the baby gently with warm water prior to its first feed promotes successful breastfeeding.  
   - **FALSE**

6. If not breastfeeding, a woman may ovulate as early as 21 days postpartum.  
   - **TRUE**
HANDOUT: BREASTFEEDING

CRADLE HOLD

The mother sits up and puts the baby’s body on the side across her lap, facing her. She supports the baby’s head in the bend of her elbow and the back and bottom with her forearm.

UNDER ARM HOLD

A mother can put her baby under her arm, holding the baby’s head and neck in her hand. The baby’s feet go towards her back. This position helps if the mother had a cesarean delivery or if the baby does not take in enough of the mother’s nipple and areola in other positions. In this hold, the milk is pulled more from the outside of the breasts.
**CROSS-CRADLE HOLD**
This position is almost like the cradle hold, but the mother uses the other arm to hold the baby. The baby’s head is held by the mother’s open hand. This position makes it easy to move the baby to the breast and into a comfortable position as the baby latches on and sucks.

**SIDE LYING HOLD**
This can also be called the eat-and-sleep hold. Both the mother and baby are on their sides facing each other. The mother uses her hand under the baby to position the baby’s head at her lower breast. The other hand pulls the baby closer to her. This hold helps the baby latch correctly on the breast during the first few days. It also is a good hold for a mother who had a cesarean delivery.
## GUIDE TO STEPS: EXPRESSING BREAST MILK

1. **Explain to the mother:**
   - Why she needs to express breast milk and cup feed her baby
   - That you will show her each step and do it with her so she can learn to do it alone
   - That she should use a cup that has been boiled to collect expressed breast milk

2. **Find a private place where the mother can relax near to her baby.**

3. **Wash your hands with soap and water. Dry with a clean, dry cloth or air dry.**

4. **Ask the mother to do the same.**

5. **Put on gloves (need not be sterile, mother does not need gloves).**

6. **Put clean, warm, wet cloths on the breasts for 5 minutes.**

7. **Have nearby a cup or container that has a wide opening and has been boiled.**

8. **Massage breasts from outside toward nipple to bring milk down.**

9. **Hold the breast in a “C-hold” (thumb on top and other fingers below the breast), with fingers away from the areola.**
**GUIDE TO STEPS: EXPRESSING BREAST MILK**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.</strong> Express milk out:</td>
<td></td>
</tr>
<tr>
<td>• Lean slightly forward so the milk will go into the container.</td>
<td></td>
</tr>
<tr>
<td>• Press thumb and other fingers in toward the body.</td>
<td></td>
</tr>
<tr>
<td>• Squeeze thumb and other fingers together.</td>
<td></td>
</tr>
<tr>
<td>• Move them toward the areola, so the milk in the collecting areas behind the areola comes out.</td>
<td></td>
</tr>
<tr>
<td>• Repeat actions to express milk until milk flow decreases.</td>
<td></td>
</tr>
<tr>
<td>• Be patient, even if no milk comes at the beginning.</td>
<td></td>
</tr>
<tr>
<td>• Move hands around the breast so milk is expressed from all areas of the breast.</td>
<td></td>
</tr>
<tr>
<td>• It does not matter what hand is used, or use both hands.</td>
<td></td>
</tr>
<tr>
<td><strong>11.</strong> Express one breast for at least 3–5 minutes until the flow slows, then express the other side, then repeat both sides.</td>
<td></td>
</tr>
<tr>
<td><strong>12.</strong> Explain that expressing milk can take 30 minutes or more when starting.</td>
<td></td>
</tr>
</tbody>
</table>
Expressing Milk: 1) Press in toward the chest, 2) Squeeze fingers together
### Chart 3.4: Sore or Cracked Nipples: Decision-Making Chart

| History | Ask the mother:  
| | - What are you feeling? The mother’s nipples may be sore or even painful.  
| | - When does it hurt? Pain is noticed when the baby is first put to the breast at the beginning of a feed.  |
| Exam | Examine the breasts and nipples: the nipples may be red, cracked, and/or bleeding.  
| | Observe the baby breastfeeding: if the baby’s position and attachment are not good, it can cause sore or cracked nipples.  
| | - Is the baby’s body close to the mother’s body?  
| | - Is the baby’s chin touching the breast?  
| | - Is the baby’s mouth wide open?  
| | - Is the lower lip turned outward?  
| | - Is more of the areola seen above the baby’s mouth than below it?  
| | - Ask if the mother’s breasts and nipples comfortable?  |
| Problems/needs | Sore or cracked nipples  
| | Other problems to think about:  
| | - Thrush: This is a fungus or yeast infection that will cause the nipples to be red. However, the baby usually also has thrush in her mouth, with white patches on the mucous membranes and the tongue. The baby with thrush may not want to eat because of a sore mouth. (See chapter 6.)  

### Chart 3.5: Not Enough Milk: Decision-Making Chart

**Problems/needs**

The baby is not getting enough milk. List the cause of not enough milk, if known.

The mother thinks she does not have enough milk, even though the baby is getting enough.

**Plan of care**

If needed, counsel and help the mother with position and baby attachment.

- Reassure the mother that she can make lots of milk.
- Advise the mother to:
  - Rest more.
  - Drink more fluids (with every meal and every breastfeeding).
  - Feed the baby on demand, at least every 2-3 hours, more often if the baby wants to suck.
  - Let the baby feed for as long as possible on each breast.
  - Feed only at the breast.
  - Stay in bed and keep the baby with her so the baby can feed often during the time she is trying to increase her milk supply.
- Note: It usually only takes 24-48 hours to increase breast milk.

**Follow-up**

See the mother and baby in 3 days. Repeat the above history and exam. Consider scheduling weekly visits to monitor weight gain. Advise the mother to return if the problem worsens or if there are any danger signs.
| History | Ask the mother:  
| - What do you feel in your breasts? Engorged breasts are hard, swollen, and painful.  
| - How often does the baby breastfeed?  
| - How long ago did you give birth? Engorgement usually happens about 2-3 days after birth, if the baby is not breastfed for a long period, or if the woman and baby are separated.  
| - Do you have any fever, chills, or one area of the breast that has a lump, is red, and is hot? These questions are to rule out other problems, such as a breast infection. Engorgement may be accompanied by a low fever (up to 38 °C or 100.4 °F) lasting not more than 24 hours. If the fever lasts more than 48 hours, suspect mastitis. |
| Exam | Examine both breasts. Engorged breasts are hard, swollen, and painful. Usually both breasts become engorged at the same time.  
| Look at the baby breastfeeding. See whether the baby is attaching and sucking well. |
| Problems/needs | Breast engorgement |
| Other problems to think about:  
| - **Mastitis**: Usually starts 10 days or more after birth, with fever, one area of redness, and heat. Usually only one breast is affected.  
| - **Plugged milk duct**: No fever; the mother feels well except for one hard, swollen area of one breast. |
## CHART 3.6  BREAST ENGORGEMENT: DECISION-MAKING CHART

<table>
<thead>
<tr>
<th>Plan of care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain to the mother how to reduce breast engorgement.</td>
</tr>
<tr>
<td>Advise her to:</td>
</tr>
<tr>
<td>- Before each breastfeed, put hot wet clean cloths on the breasts for 5-10 minutes or take a warm shower.</td>
</tr>
<tr>
<td>- Before each breastfeed, hand-express a small amount of milk before putting the baby to the breast. This softens the area around the nipple (the areola) and helps milk flow, making it easier for the baby to attach.</td>
</tr>
<tr>
<td>- Breastfeed often, at least every 2-3 hours. If the baby is not able to suck, express milk every 2-3 hours. (Engorged breasts that are not emptied can become infected.)</td>
</tr>
<tr>
<td>- At each feed, empty the first breast before offering the other breast to the baby.</td>
</tr>
<tr>
<td>- If the breasts still feel full after a breastfeed, encourage the baby to feed longer or express breast milk for a few minutes (until the breasts feel softer).</td>
</tr>
<tr>
<td>- Help close the milk ducts and make the breasts more comfortable after breastfeeding by putting a cold cloth on both breasts for 5-10 minutes after breastfeeding.</td>
</tr>
</tbody>
</table>

Advise the mother on other comfort measures for engorgement:

- Avoid tight-fitting bras.
- Apply cold compresses to the breasts between feedings to help reduce swelling and pain.
- Put cold cabbage leaves on the breasts.\(^{22, 20}\)
  - Wash and dry cabbage leaves with clean water.
  - Crumple the leaves with your hand to crush veins before using.
  - Put one or more leaves on each breast to completely cover them (including under the arm).
  - Wear a bra or tie on a cloth to hold the leaves in place.
  - Wear the leaves until they become soft.
- Take paracetamol 500 mg by mouth 3 times a day as needed.
- Explain the signs of breast infection, and that the mother should see a health worker if she has any signs of infection:
  - Pain, redness, heat, a lump in one breast, fever and chills

<table>
<thead>
<tr>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not needed if engorgement stops and there is no sign of a breast infection.</td>
</tr>
</tbody>
</table>
Best Practices in Breastfeeding Support

Session Objectives

By end of the session, participants will be able to:

- Define exclusive and non-exclusive breastfeeding
- Counsel mother and family on breastfeeding
- State interventions during labor, birth and postpartum that positively and negatively affect breastfeeding
- Recognize correct attachment and effective sucking
- Counsel mother on the management of breastfeeding problems

Question ??

What is “exclusive breastfeeding”?

Definitions

- Exclusive breastfeeding means that for the first 6 months the baby is breastfed exclusively. Nothing else is given to the baby to eat or drink during this time.
- If the baby is given water, breast milk substitute such as formula or cereal, the baby is not exclusively breastfed. This is not recommended.
Question ??
What are the general benefits of breastfeeding for the infant?

Benefits to Baby
- More easily digested
- Adapts to needs of growing infant
- Promotes optimal brain development
- Supports immune system to prevent infections
- Provides some protection against allergies
- Decreases risk of Sudden Infant Death (SIDS)

Question ??
What are the general benefits of breastfeeding for the mother?

Benefits to Mother
- Promotes uterine involution
- Promotes maternal-infant bonding
- Promotes child spacing (contraceptive effect)
- Convenient
- Economic
Question ??

What are the intrapartum and postpartum interventions that may affect lactation?

Practices that Promote Breastfeeding

- Initiate breastfeeding within 1 hour
- Immediate skin-to-skin contact
- Avoid routine newborn care until after infant has had first feed
- Avoid separation of mother and baby
- Allow feeding on demand
- Evaluate attachment and assist as needed

Practices that Negatively Impact Breastfeeding

- Medications during labor and birth
- Separation of infant from mother
- Prelacteal feeds
- Delay in initiating breastfeeding
- Timed feeds or feeding intervals
- Use of artificial nipples
- Gift packs with breast milk substitute

Question ??

What are the components of correct attachment and effective sucking?
Attachment and Sucking

- Alignment of infant's ear, shoulder, hip (in cradle hold)
- Infant's lips everted (like fish lips) when attached
- Infant's tongue forward and cupped
- Areola compressed
- Can hear infant swallow

Positions for Effective Breastfeeding

- Cradle position
- Cross-cradle position
- Football clutch position
- Side lying position

SEE HANDOUT

Question ??

What are the general benefits of breastfeeding for the infant?

Additional Advice

- Choose position that is comfortable and effective
- Use both breasts at each feed; do not limit time at either
- Ensure adequate sleep/rest – take nap when baby sleeps
- Ensure adequate food/fluid intake – glass of fluids per feed; extra meal per day
Hand Expression of Breast Milk

1. Press in toward the chest, and
2. Squeeze fingers together

SEE ILLUSTRATION IN HANDOUT

Practice

- Participants divide into groups of two
- Have one participant play the role of support person for woman who needs to express breast milk – using handout

Preventing and Managing Problems

- SEE HANDOUTS
- Sore or cracked nipples:
  - Be sure baby is attaching and sucking correctly
  - Start feeding the baby on the less sore breast
  - Keep breasts clean and dry between feeds
  - Take paracetamol for pain
  - Do not stop breastfeeding
  - If mother is HIV-positive, baby should not drink from a cracked or bleeding nipple

Preventing and Managing Problems (cont.)

- SEE HANDOUTS
- Baby “not getting enough milk”:
  - Reassure mother that she can make sufficient milk
  - Reassure mother than as long as baby urinates at least 6 times per day, the baby is getting sufficient milk
  - Follow weight of baby
  - Rest more
  - Increase fluid intake
  - Feed baby on demand
  - Let baby suck as long as it wants to
Preventing and Managing Problems (cont.)

**SEE HANDOUTS**

**Engorgement – swollen fullness of breasts:**
- Take paracetamol 500 mg three times per day
- Use cold compresses between feeds
- Use warm compress 10–15 minutes immediately before feed
- Hand express a little milk before feed to improve attachment
- Feed frequently, at least every 2–3 hours
- Empty one breast completely before offering other breast
- Explain to seek medical help if redness, sore area, fever

---

**Mastitis – infection of breast:**
- Give antibiotics (cloxacillin 500 mg by mouth 3/day for 10 days OR erythromycin 250 mg by mouth 3/day for 10 days)
- Encourage to continue breastfeeding
- Support breasts with binder or bra
- Apply cold compresses between feeds
- Give paracetamol 500 mg by mouth as needed

---

**Breast abscess – fluctuant swelling with pus:**
- Give antibiotics (cloxacillin 500 mg by mouth 3/day for 10 days OR erythromycin 250 mg by mouth 3/day for 10 days)
- Refer to incise and drain breast
- Encourage to continue breastfeeding
- Support breasts with binder or bra
- Apply cold compresses between feeds
- Give paracetamol 500 mg by mouth as needed

---

**References**

Clark A and Beck D. *Breastfeeding: A Lesson Plan.*
## SESSION OBJECTIVES

**By the end of this session, participants will be able to:**

- Define postpartum contraception
- Explain the benefits of birth spacing
- Discuss postpartum return of fertility
- Describe the timing and initiation of key contraceptive methods
- Describe the World Health Organization’s (WHO’s) Medical Eligibility Criteria for Contraceptive Use

### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: Postpartum family planning (60 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ask questions of the larger group throughout the session.</td>
</tr>
<tr>
<td>- Intersperse presentation with questions, examples and discussion.</td>
</tr>
<tr>
<td>- Be sure to include:</td>
</tr>
<tr>
<td>- Definitions</td>
</tr>
<tr>
<td>- The situation of unmet need</td>
</tr>
<tr>
<td>- Significance of birth spacing</td>
</tr>
<tr>
<td>- Basic elements of PPFP</td>
</tr>
<tr>
<td>- Return to fertility</td>
</tr>
<tr>
<td>- Implications of / for breastfeeding</td>
</tr>
<tr>
<td>- Medical eligibility criteria</td>
</tr>
<tr>
<td>- PP contraceptive for the HIV-positive postpartum woman</td>
</tr>
<tr>
<td>- Methods:</td>
</tr>
<tr>
<td>- Non-hormonal</td>
</tr>
<tr>
<td>- LAM</td>
</tr>
<tr>
<td>- Condoms</td>
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<tr>
<td>- FAM</td>
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<tr>
<td>- Vasectomy</td>
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<tr>
<td>- Postpartum female sterilization</td>
</tr>
<tr>
<td>- IUDs</td>
</tr>
<tr>
<td>- Hormonal methods</td>
</tr>
<tr>
<td>- Withdrawal</td>
</tr>
<tr>
<td>- Emergency contraception (EC)</td>
</tr>
</tbody>
</table>

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)

### Contraceptive challenge game (30 min) – described on slides

- Participants divide into groups of three or four.
- Each group selects a contraceptive and provides information on chosen method.
- Pictures, simulations or actual methods should be passed around for each learner to examine.

### Case study (30 min)

- Small groups read case study and answer questions.
- Group is reassembled and answers discussed with larger group.
CASE STUDY: POSTPARTUM ASSESSMENT AND CARE

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. C. gave birth 2 weeks ago. Her pregnancy, labor and birth were uncomplicated. This is her first postpartum clinic visit. Mrs. C. has one other child, who is 3 years of age. She does not want to become pregnant again for at least 2 years. Mrs. C. left her baby at home with her mother-in-law, but reports that the baby is well and had a routine check-up by the midwife when the baby was 1 week old.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. C.?

ASSESSMENT

(Information gathering through history, physical examination and testing)

2. What history will you include in your assessment of Mrs. C., and why?

3. What physical examination will you include in your assessment of Mrs. C., and why?

4. What laboratory tests will you include in your assessment of Mrs. C., and why?

DIAGNOSIS

(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

History:

- Mrs. C. is feeling well.
- Mrs. C. reports no complications or problems during this pregnancy, labor/childbirth or postpartum period. Her medical history is not significant: she is taking no medications, nor does she have any chronic conditions or illnesses.
- Mrs. C.’s first child is well and was breastfed for 6 months.
- She is exclusively breastfeeding her baby and intends to do so for at least 6 months.
- She wants to know whether she should start using contraception now, as she does not want to become pregnant again for at least 2 years.
- All other aspects of her history are normal or without significance.

**Physical Examination:**
- Mrs. C.’s general appearance is healthy.
- Vital signs are as follows: BP is 120/76; pulse is 78 beats per minute; temperature is 37.6°C.
- Her breasts appear normal.
- Her abdominal exam is without significant findings and involution is proceeding normally.
- Her lochia is a pale, creamy brown in color.
- All other aspects of her physical examination are within normal range.

**Testing:**
HIV test is negative.

5. **Based on these findings, what is Mrs. C.’s diagnosis (problem/need), and why?**

**CARE PROVISION**
(Implementing plan of care and interventions)

6. **Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. C., and why?**

**EVALUATION**
- Mrs. C. returns to the clinic at 6 weeks postpartum.
- She is well.
- She tells you that she is still breastfeeding exclusively/on demand and her menses have not returned.
- She also says she has decided to return to work, on a part-time basis, when her baby is 4 months of age, and will only be partially breastfeeding from then on.
- She asks whether she should start taking a contraceptive.

7. **Based on these findings, what is your continuing plan of care for Mrs. C., and why?**

- Mrs. C. should be provided family planning counseling, including the availability and accessibility of family planning services and methods, to enable her to make an informed choice about a method of contraception.
CASE STUDY: POSTPARTUM ASSESSMENT AND CARE
(FAMILY PLANNING)—ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. C. gave birth 2 weeks ago. Her pregnancy, labor and birth were uncomplicated. This is her first postpartum clinic visit. Mrs. C. has one other child, who is 3 years of age. She does not want to become pregnant again for at least 2 years. Mrs. C. left her baby at home with her mother-in-law, but reports that the baby is well and had a routine check-up by the midwife when the baby was 1 week old.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. C.?
   - Mrs. C. should be greeted respectfully and with kindness and offered a seat to help her feel comfortable and welcome, establish rapport and build trust. A good relationship helps to ensure that the client will adhere to the care plan and return for continued care.
   - Ascertain, from other staff or from records, whether or not Mrs. C. has had a Quick Check. If she has not, you should conduct a Quick Check now. The Quick Check detects signs/symptoms of life-threatening complications so that a woman receives the urgent care she requires before receiving routine assessment/care.

ASSESSMENT
(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. C., and why?
   - Because this is Mrs. C.’s first postpartum visit, you should take a complete history (i.e., personal information, daily habits and lifestyle, history of present pregnancy and labor childbirth, present postpartum period, obstetric history, including breastfeeding history, contraceptive history/plans, medical history) to guide further assessment and help individualize care provision. Some responses may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.
   - Information about how the baby is doing should also be obtained, with particular emphasis on feeding—this could have an impact on return of fertility, about which she has expressed concerns.
   - Special attention should be given to her contraceptive history/plans.
3. What physical examination will you include in your assessment of Mrs. C., and why?

- Because this is Mrs. C.’s first postpartum visit, you should perform a complete physical examination (i.e., general well-being, vital signs, breast inspection and palpation, abdomen [uterus/involution, bladder], leg examination, and genital examination [lochia, perineum]) to guide further assessment and help individualize care provision. Some findings may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

4. What laboratory tests will you include in your assessment of Mrs. C., and why?

- You should conduct an HIV test if available and as needed (if status is unknown and she does not “opt out”), to guide further assessment and help individualize care provision. A positive result would indicate a special need/condition that requires additional care.

**DIAGNOSIS**
*(Interpreting information to identify problems/needs)*

You have completed your assessment of Mrs. C. and your main findings include the following:

**History:**

- Mrs. C. is feeling well.
- Mrs. C. reports no complications or problems during this pregnancy, labor/childbirth or postpartum period. Her medical history is not significant: she is taking no medications, nor does she have any chronic conditions or illnesses.
- Mrs. C.’s first child is well and was breastfed for 6 months.
- She is exclusively breastfeeding her baby, giving no supplements, and intends to do so for at least 6 months.
- She wants to know whether she should start using contraception now, as she does not want to become pregnant again for at least 2 years.
- All other aspects of her history are normal or without significance.

**Physical Examination:**

- Mrs. C.’s general appearance is healthy.
- Vital signs are as follows: BP is 120/76; pulse is 78 beats per minute temperature is 37.6°C.
- Her breasts appear normal.
- Her abdominal exam is without significant findings and involution is proceeding normally.
- Her lochia is a pale, creamy brown in color.
- All other aspects of her physical examination are within normal range.
Testing:
HIV test is negative.

5. Based on these findings, what is Mrs. C.'s diagnosis (problem/need), and why?

Mrs. C. needs advice/counseling about family planning. Because she intends to fully breastfeed her baby for at least 6 months, she is using LAM (exclusively breastfeeding, infant is <6months and she is amenorrheic) and does not need another method of family planning until one of the three criteria is no longer valid. She needs to know where she can go when she is no longer using LAM even though she may continue to breastfeed; she can no longer depend on LAM for contraception and will need to transition to another modern method.

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. C., and why?

- Mrs. C. should receive basic care provision (i.e., breastfeeding and breast care, complication readiness plan, nutritional support, support for mother-baby-family relationships, self-care and other healthy practices, HIV counseling, immunizations, and other preventive measures, as well as about newborn care), which will help support and maintain a healthy postpartum/newborn period. The following special emphasis should also be given:
  - Mrs. C. should be counseled about lactational amenorrhea (LAM), as it is effective for women who are exclusively or nearly exclusively breastfeeding, have not had return of menses and are less than 6 months postpartum.
  - The meaning of “on demand” and “exclusive” breastfeeding should be explained to Mrs. C: that is, feeding the baby whenever s/he desires (at least every 4 hours during the day and every 6 hours at night) and not giving the baby any other food or fluids.
  - Mrs. C. should be advised that another method of contraception should be chosen if any of the following occur:
    - Menses resume.
    - Baby does not breastfeed frequently enough (at least every 4 hours during the day and every 6 hours at night).
    - Regular supplementary feedings (replacing a breastfeeding meal) are added to the baby’s diet.
    - The baby is 6 months of age.
  - Mrs. C. should be counseled about other contraceptive options that may be used when LAM is no longer an appropriate method. She should be counseled that she can use any progestin-only contraceptive, condoms, or IUD even while she is breastfeeding, and that she can use combined oral contraceptives after the baby is 6 months old.
  - Mrs. C. should be asked to come back for a follow-up visit at 6 weeks postpartum, but told that she can return before then if she has a problem or concern. She should be counseled to bring her newborn to her 6-week checkup or earlier if needed.
EVALUATION

- Mrs. C. returns to the clinic at 6 weeks postpartum.
- She is well.
- She tells you that she is still breastfeeding exclusively/on demand and her menses have not returned.
- She also says she has decided to return to work, on a part-time basis, when her baby is 4 months of age, and will only be partially breastfeeding from then on.
- She asks whether she should start taking a contraceptive.

7. Based on these findings, what is your continuing plan of care for Mrs. C., and why?

- Mrs. C. should be provided family planning counseling, including the availability and accessibility of family planning services and methods, to enable her to make an informed choice about a method of contraception. She needs to know about methods that are compatible with breastfeeding. For hormonal methods, she may use progestin-only methods which include Depo-Provera 150mg IM q 3 months, 104mg subcutaneously q 3 months, implants (Jadelle, Norplant or Implanon) or progestin-only pills. She also could use an IUD. She may also have her partner use a condom.

<table>
<thead>
<tr>
<th>METHOD</th>
<th>HOW IT WORKS</th>
<th>EFFICACY</th>
<th>SIDE EFFECTS</th>
<th>PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progest inject.</td>
<td>Makes mucus plug in cervix, eggs don’t ripen</td>
<td>97%</td>
<td>May have irregular periods or no periods, may cause weight gain</td>
<td>May experience symptoms of menopause</td>
</tr>
<tr>
<td>Progestin-only pills</td>
<td>Same as above</td>
<td>92%, easy to forget to take</td>
<td>Irregular periods</td>
<td>Must be taken at same time daily</td>
</tr>
<tr>
<td>Implants</td>
<td>Same as above</td>
<td>99.95%</td>
<td>Irregular periods</td>
<td>Insertion must be done at facility; removal difficulties 1.0%</td>
</tr>
<tr>
<td>IUD</td>
<td>Creates hostile environment for sperm</td>
<td>99.2%</td>
<td>May have heavier periods with cramps</td>
<td>If conception occurs could be ectopic, need to check strings after period; Insertion at facility</td>
</tr>
<tr>
<td>Condoms</td>
<td>Physical barrier dual protection against pregnancy and STI/HIV</td>
<td>85%</td>
<td>May reduce pleasure; must be used while man has an erection</td>
<td>Need partner participation</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Ejaculate released outside of vagina</td>
<td>73%</td>
<td>May reduce pleasure</td>
<td>Dependent on partner</td>
</tr>
</tbody>
</table>

KNOWLEDGE ASSESSMENT: POSTPARTUM FAMILY PLANNING

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. According to DHS surveys, what percentage of women do not want another pregnancy within the 2 years after childbirth?
   a. 12–20%
   b. 42–45%
   c. 62–67%
   d. 92–97%

2. Appropriate timing for postpartum family planning counseling includes:
   a. 6 weeks postpartum
   b. Immediate postpartum
   c. Antenatal
   d. a) and b)
   e. All of the above

3. The criteria for LAM are:
   a. Fully or nearly fully breastfeeding, less than 4 months postpartum, menses have not returned, and baby still feeds at least once during the night
   b. Fully or nearly fully breastfeeding, less than 6 months postpartum, and menses have not returned
   c. Fully or nearly fully breastfeeding, less than 4 months postpartum, and menses have not returned

4. IUDs can be inserted:
   a. Within 24 hours and after 6 weeks postpartum
   b. Within 24 hours and after 4 weeks postpartum
   c. Within 48 hours and after 4 weeks postpartum
   d. Post-placental only (within 10 minutes of delivery) and after 6 weeks postpartum

5. IUD use:
   a. Is associated with infertility
   b. Increases risk of PID
   c. Is contraindicated in any woman who is HIV+
   d. None of the above
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

6. The breastfeeding woman can begin oral progestin-only pills at 6 weeks after delivery.
7. Combined oral contraceptives can be used by non-breastfeeding women at 3 weeks postpartum.  

8. IUDs and hormonal contraception may increase the risk of acquisition of HIV.  

9. LAM provides 98% protection from pregnancy.  

10. Fertility awareness methods (such as Standard Days Method) can be started at 6 weeks postpartum for both breastfeeding and non-breastfeeding women.  

11. Vasectomy is not effective immediately, so WHO recommends use of a backup contraceptive method for 1 month after the procedure.  

12. IUDs are the most cost-effective reversible method if used for 2 years or more.
KNOWLEDGE ASSESSMENT: POSTPARTUM FAMILY PLANNING—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. According to DHS surveys, what percentage of women do not want another pregnancy within the 2 years after childbirth?
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   c. Fully or nearly fully breastfeeding, less than 4 months postpartum, and menses have not returned

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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

6. The breastfeeding woman can begin oral progestin-only pills at 6 weeks after delivery.  TRUE
7. Combined oral contraceptives can be used by non-breastfeeding women at 3 weeks postpartum.  
   **TRUE**

8. IUDs and hormonal contraception may increase the risk of acquisition of HIV.  
   **FALSE**

9. LAM provides 98% protection from pregnancy.  
   **TRUE**

10. Fertility awareness methods (such as Standard Days Method) can be started at 6 weeks postpartum for both breastfeeding and non-breastfeeding women.  
    **FALSE**

11. Vasectomy is not effective immediately, so WHO recommends use of a backup contraceptive method for 1 month after the procedure.  
    **FALSE**

12. IUDs are the most cost-effective reversible method if used for 2 years or more.  
    **TRUE**
Session Objectives

- Define postpartum contraception
- Explain the benefits of birth spacing
- Discuss postpartum return of fertility
- Describe the timing and initiation of key contraceptive methods
- Describe WHO’s Medical Eligibility Criteria for Contraceptive Use

Definitions

- Postpartum contraception is the initiation and use of family planning methods during the first year after delivery:
  - Post-placental – within 10 minutes after placenta delivery
  - Immediate postpartum – within 48 hours after delivery (e.g., voluntary sterilization)
  - Early postpartum – 48 hours up to 6 weeks
  - Extended postpartum – 48 hours up to 1 year after birth

Question ??

- According to DHS surveys, what percentage of women do not want another pregnancy within the 2 years after childbirth?
  - 12-20%
  - 42-45%
  - 62-67%
  - 92-97%
Unmet Need: Fertility Preferences of Postpartum Women

- According to many DHS surveys*:
  - 92–97% of women do not want another child within 2 years after giving birth
  - But 35% of women had their children spaced at 2 years apart or less
  - 40% of women who intend to use a FP method in the first year postpartum are not using one


Birth Spacing

- Time interval from one child’s birth date until the next child’s birth date
- Healthy timing and spacing of pregnancy:
  - Both infants and mothers are more likely to survive if couples space their births 3 to 5 years apart
  - This means that couples should wait 2 years after the birth of their last baby before trying to conceive


Birth Spacing Saves Infant Lives

- Healthy timing and spacing of pregnancies has positive effects on maternal health and newborn outcomes
- Women who have their babies at 27- to 32-month intervals are:
  - More likely to avoid anemia
  - More likely to avoid 3rd trimester bleeding
  - More likely to survive childbirth

Contraception after Childbirth: Basic Care and Services

Basic care should include:
- Discussion of contraceptive needs:
  - Considering client’s reproductive goals
- Information and counseling about methods, their effectiveness rates, and side effects
- Short- and long-term method choices

Counseling

Main goals of FP counseling:
- To help women (and couples) decide if they want to use a contraceptive method
- With the client’s permission, include partner
- Birth spacing/limiting
- If she does want contraception, to help her choose an appropriate method, taking into consideration whether or not she is breastfeeding
- To prepare her to use the method effectively
- To help the woman develop a transition plan from LAM to another method
- To discuss return to fertility

Return to Fertility

- During pregnancy, the cyclic function of the ovaries is suspended due to presence of placental hormones
- During early postpartum:
  - Inhibiting effects of estrogen and progesterone are removed
  - Levels of Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) gradually rise
  - Ovarian function begins again

Source: Solter/Pathfinder 1998.
Return to Fertility: Effect of Lactation

Non-lactating women:
- Will menstruate within 12 weeks
- On average, first ovulation 45 days after delivery
- Risk of pregnancy

Breastfeeding women:
- Period of infertility longer for exclusive or nearly exclusive breastfeeding:
  - On-demand feeding blocks ovulation
- Return to fertility not predictable
- Likelihood of menses and ovulation is low during first 6 months
- Ovulation may occur prior to menses

Breastfeeding Women
- Protected for at least 6 months if using LAM:
  - Fully or nearly fully breastfeeding
  - Less than 6 months postpartum
  - Menses has not returned
- Protected up to 6 weeks if not using LAM:
  - At 6 weeks can use combined methods
  - At 6 weeks can use progestin only methods safely or TL
- All non-hormonal methods are safe for mother and baby
- Can use IUD

When to Introduce Methods in Breastfeeding Women

<table>
<thead>
<tr>
<th></th>
<th>LAM</th>
<th>COC</th>
<th>POC</th>
<th>IUD</th>
<th>BTL</th>
<th>Condoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>@Deliv.</td>
<td>OK</td>
<td>NO</td>
<td>NO</td>
<td>OK</td>
<td>OK</td>
<td>NO</td>
</tr>
<tr>
<td>3 wks</td>
<td>OK</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>OK</td>
</tr>
<tr>
<td>6 wks</td>
<td>OK</td>
<td>NO</td>
<td>OK</td>
<td>OK**</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>6 mths</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>&gt;6 mths</td>
<td>NA</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>
Non-Breastfeeding Women
- Contraception should be started at the time of or before first intercourse
- Combined hormonal methods should not be used until after 3 weeks postpartum

When to Start Contraception
Timing depends on:
- Breastfeeding status
- Method of choice
- Reproductive goals

Medical Eligibility Criteria for Contraceptive Use (MEC)
- Covers 17 contraceptive methods, 120 medical conditions
- Addresses who can use contraceptive method based on medical methods
- Gives guidance to providers for clients with medical problems or other special conditions

Purpose of the Medical Eligibility Criteria (MEC)
- To guide family planning practices based on the best available evidence
- To address and change misconceptions about who can and cannot safely use contraceptive methods
- To reduce medical policy and practice barriers (i.e., not supported by evidence)
- To improve quality, access and use of family planning services

What is answered by the MEC?
Identifies which contraceptive or family planning method can be safely used in the presence of a given individual characteristic or medical condition

WHO Medical Eligibility Criteria Classification Categories

<table>
<thead>
<tr>
<th>Classification</th>
<th>With clinical judgment</th>
<th>With limited clinical judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use method in any circumstances</td>
<td>Yes Use the method</td>
</tr>
<tr>
<td>2</td>
<td>Generally use; advantages outweigh risks</td>
<td>Yes Use the method</td>
</tr>
<tr>
<td>3</td>
<td>Generally do not use; risks outweigh advantages</td>
<td>No Do not use the method</td>
</tr>
<tr>
<td>4</td>
<td>Method not to be used</td>
<td>No Do not use the method</td>
</tr>
</tbody>
</table>

Postpartum Contraception for HIV-Positive Women
- Important information for HIV+ women:
- Correct and consistent use of male and female condoms can reduce risk of STI/HIV transmission
- Using another contraception in addition to a condom (dual method use) reduces the chance of pregnancy, thus avoiding mother-to-child transmission

Summary – Contraception and HIV Acquisition
- Male condoms proven effective; female condoms’ effectiveness may be similar to male condoms
- Spermicides (N-9) not effective against HIV:
  - N-9 in WHO MEC is category 4 for HIV-positive people
- IUDs and hormonals do not increase HIV acquisition from findings of observational studies
Integration of HIV with FP

- HIV prevention should be an integral part of FP services to help clients assess their risk and make necessary changes in behavior.
- FP providers should encourage clients to seek VCT to prevent HIV transmission to partners, to improve quality of life if HIV-positive, and to prevent HIV transmission to future children.

Postpartum FP and HIV

- HIV-positive women who are not breastfeeding need a family planning method immediately
- HIV-positive women who are breastfeeding may practice LAM, but will need to choose another method at 6 months when they stop breastfeeding
- Counsel all women (even when status is unknown) about the importance of postpartum FP:
  - Significance of safer sex and dual protection
  - Available contraceptive choices
  - Healthy timing and spacing if future pregnancy desired
  - Surgical contraception if no future pregnancy desired

Contraceptive Challenge Game

- Divide participants into groups of 3 or 4.
- One representative from each group closes her/his eyes and reaches into a bag that contains small envelopes that contain one contraceptive method [COCs, POPs, condom, IUD, implant, a picture of breastfeeding (for LAM), a picture of a man (for vasectomy), and a representative picture for tubal ligation], and selects one.

Contraceptive Challenge Game (cont.)

- For the contraceptive chosen, each group must tell: advantages, disadvantages, timing and breastfeeding considerations.
- Groups that provide correct information get a small prize or an applause.
- After information is given for each method, those that are actual contraceptives are passed around the room for each learner to handle/examine.
Non-Hormonal Methods

- Non-hormonal methods:
  - LAM
  - Barrier methods
  - Periodic abstinence (fertility awareness, SDM)
  - Male and female sterilization
  - IUDs (Copper)

All non-hormonal contraceptive methods can be used safely by breastfeeding women

What is the Lactational Amenorrhea Method (LAM)?

- Exclusively or nearly exclusively breastfeeding:
  - On demand around the clock feeding (every 2–3 hours)
  - No supplemental infant feeding
- Menses has not returned
- Less than 6 months postpartum
- If any of these three factors change, FP is needed to prevent pregnancy
- Begin planning for FP method to transition to at 6 months

Lactational Amenorrhea Method

For women who exclusively breastfeed:

- Fertility is delayed during the first 6 months postpartum
- More than 98% protection from pregnancy
- Effective, safe contraception suitable for most women:
  - Non-hormonal
  - Non-invasive
- Can be used as a transitional method until couple decides on or meets criteria for another method
- Can be used by HIV+ mothers in addition to condoms; LAM is consistent with WHO guidelines for HIV+ women

Transition from LAM...

- Before 6 months:
  - Assist the woman in planning for transition to another FP method post LAM
- At 6 months or when any one of the criteria is not met, women will need to begin another FP method:
  - At 6 months:
    - Weaning from exclusive breastfeeding often starts
    - Less suckling/less prolactin—ovulation no longer inhibited
    - Menses and ovulation more likely
Advantages of LAM

- Breastfeeding practices required by LAM have other health benefits for mother and baby:
  - Bonding, protects baby from diseases, healthiest food for baby, etc.
- Universally available
- Can be used immediately after childbirth
- No supplies or procedures needed
- Bridge to other contraceptives
- No hormonal side effects

Disadvantages of LAM

- No protection against STIs
- Effectiveness after 6 months uncertain
- Exclusive breastfeeding may not be convenient for some women
- Small chance of MTCT during breastfeeding if mother is HIV-positive

Barrier Methods: Condoms

- When used consistently and correctly, male condoms are highly effective against pregnancy and STIs/HIV
- A latex sheath or covering made to fit over erect penis
- 97% effective in preventing pregnancy when used correctly every time

Advantages of Condoms

- Prevent STIs, including HIV/AIDS as well as pregnancy when used correctly and with each act of intercourse
- Can be used soon after childbirth
- No hormonal side effects
- Can be stopped any time
- No need for health provider or clinic visit
- Usually easy to obtain and sold in many places
- Anyone can use if not allergic to latex
**Disadvantages of Condoms**

- A man’s cooperation is needed
- May decrease sensation
- Poor reputation—associated with immoral sex, extra-marital sex or prostitution
- May be embarrassing/uncomfortable to purchase or ask partner to use
- Can be weakened if stored too long, in too much heat or humidity, or if used with oil-based lubricants—may break during use
- Some men or women may be allergic to latex

**Fertility Awareness Methods**

- Based on awareness of or ability to determine fertile time of menstrual cycle
- Include:
  - Basal body temperature/cervical secretions
  - Calendar calculations
  - Standard Days Method (SDM)
    - Cycle beads
  - Periodic abstinence during fertile period

**Fertility Awareness Methods/SDM**

- Advantages:
  - Inexpensive
  - Not necessary to acquire supplies at clinic/dispensary
- Disadvantages:
  - Most methods unreliable in postpartum women
  - Postpartum women, especially when breastfeeding, need to have 4 menstrual cycles, the most recent cycle is 26 to 32 days long
  - Partner’s cooperation needed in periodic abstinence

**Male Sterilization: Vasectomy**

- A safe, convenient, highly effective and simple form of contraception for men that is provided under local anesthesia in an out-patient setting
- Vasectomy is safer, simpler, less expensive and equally effective as FS (tubal ligation)
- Vasectomy is popular in the US and UK

Source: www.marweb.org/Technical briefs.
## Male Sterilization: Vasectomy (cont.)
- Not effective until after 3 months
- Can be timed to coincide with the postpartum period when fertility is reduced:
  - Ideal with LAM
  - If not using LAM, couple will need to use another contraceptive method during the first 12 weeks
- Follow local protocols for counseling couples in advance and obtaining informed consent
- Highly effective in preventing pregnancy (99.6 to 99.8% effective)
- Comparable to FS, implants, IUDs in preventing pregnancy
- Not effective immediately—WHO recommends use of backup contraception for 3 months after the procedure

## Vasectomy: Safety
- Very safe, with few medical restrictions
- Major morbidity and mortality rare
- Adverse long-term effects not been found
- Minor complications (e.g., infection, bleeding, post-operative and/or chronic pain 5–10%)
- No-scalpel (NSV) technique has lower incidence of bleeding and pain than incisional technique
- Morbidity and mortality rare

## Vasectomy: Crucial Programmatic Facts
- Men in every region, cultural, religious and SE setting show interest in vasectomy, despite common assumptions about negative male attitudes or societal prohibitions (MAQ)
- However, men often lack full access to information and services, especially male-centered programming, which has been shown to result in greater uptake of vasectomy
Postpartum Female Sterilization

- Ideally done within 48 hours after delivery
- May be performed immediately following delivery or during C/section
- If not performed within 1 week of delivery, delay for 4–6 weeks
- Follow local protocols for counseling clients and obtaining informed consent in advance:
  - Discuss during ANC

Female Sterilization: Effectiveness

- Highly effective, 99.5% comparable to vasectomy, implants, IUDs
- Risk of failure (pregnancy), while low:
  - Continues for years after the procedure
  - Does not diminish with time
  - Is higher in younger women
- No medical condition absolutely restricts a person's eligibility for FS

IUD

- IUDs are among the most reliable and cost-effective long-acting method of contraception available to women today. The IUD offers a level of protection comparable to female sterilization with the added advantage of easy and rapid reversibility.
- The IUD prevents pregnancy by preventing fertilization; the mechanism of action of copper IUDs is spermicidal. Copper causes a sterile body inflammatory reaction resulting in biochemical and cellular changes that are toxic to sperm in the uterine cavity, rendering the sperm incapable of fertilization.

IUDs (Cu-T)

- IUDs can be inserted:
  - Immediately after delivery of the placenta
  - During C/section
  - Within 48 hours of childbirth
- If not inserted within 48 hours, insertions should be delayed for 4–6 weeks
- Expulsion rates can be higher than with interval insertions:
  - Some studies show that insertion within 10 minutes of placenta delivery is better than other times before hospital discharge
  - High fundal placement has lower expulsion rates
Important Programmatic Characteristics of IUDs

- Effectiveness is comparable to FS
  - 12–13 yrs with CU-T (approved)
  - Cheaper to provide than other methods
  - Quickly and completely reversible
- Very safe for most women (including immediately postpartum, postabortion, or interval; breastfeeding; young; and nulliparas)

IUDs: Programmatic Considerations

- More service cadres can provide (because it is non-surgical)
- Choice: Long-acting methods that can be used long-term, non-permanent; providing a woman with a PPIUD prior to discharge is less than half as expensive as providing in outpatient settings
- Good option for HIV+ women
- Most cost-effective method of all reversible methods if used for 2 or more years

Dispelling Myths about IUDs

IUDs:
- Do not cause abortion
- Do not cause infertility
- Are unlikely to cause discomfort for male
- Do not travel to distant parts of the body
- Are not too large for small women
- May offer protection against endometrial and cervical cancer

Common Concerns about IUDs: New Information

- Pelvic Inflammatory Disease (PID)
- Infertility
- HIV/AIDS
Medical Evidence: Low PID Rates and Infertility among IUD Users

- First 20 days: highest risk due to insertion
- Beyond 20 days: PID risk is same as if no IUD:
  - 99.8% of women with IUDs have no problems with PID
- IUD use NOT associated with infertility:
  - The real culprit is chlamydia trachomatis (and GC), not the IUD!

IUD Use and HIV: Three Main Questions

- Does IUD increase risk of HIV acquisition by the woman using it?  
  - NO
- Does use of IUD by HIV-infected women increase their other health risks?  
  - NO
- Does the HIV-infected IUD user increase risk to sero-negative male partner?  
  - NO

IUD Use and HIV: Three Main Questions (cont.)

WHO Medical Eligibility Criteria: HIV/AIDS and Copper IUDs

<table>
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<th>3rd Ed 2004 Category</th>
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<td>3</td>
<td>2</td>
</tr>
<tr>
<td>HIV-infected</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>AIDS</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Clinically well on ARV therapy</td>
<td>2</td>
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</table>
Cu-IUD Side Effects

- Heavier menses in the first few months
- Increased cramping and menstrual pattern changes in the first few months
- Low expulsion rate, when occurring usually within the first 3 months

Summary: IUD

- Comparable in safety, effectiveness to FS
- Can be inserted during the postpartum period
- Risk of PID very small, even in high STI settings
- Does not increase risk of infertility
- Safe for women with no children
- Safe (and a good choice) for HIV-infected women or women with AIDS doing well on ARVs and who do not desire pregnancy

Hormonal Methods

- Progestin-only contraceptives:
  - Implants
  - Injectables
  - Progestin-only pills (POPs)
- Combined estrogen-progestin methods:
  - Combined oral contraceptives (COCs)
  - Monthly injectables (Mesigyna, Cyclofem)

Question ??

When can a breastfeeding woman begin using a progestin-only contraceptive?
Progestin-Only Contraceptives: Breastfeeding Women

- No effect on breastfeeding, breast milk production or infant growth and development
- WHO recommends a delay of 6 weeks after childbirth before starting progestin-only methods as infants may be at risk of exposure to the progestin

Implants

- Norplant (not produced since 2006):
  - 6 capsules, effective 7 years
  - 1-year failure rate 0.05% (1 pregnancy/2,000 users)
  - 5-year failure rate 1.6%
- Jadelle:
  - 2 rods, effective 5 years
  - 1-year failure rate 0.05%; 5-year failure rate 1.1%
- Implanon:
  - 1 rod, effective 3 years; with failure rate 0.07/100 ♀ years (<1%)

Progestin-Only Injectable

- Safe to use immediately PP if not breastfeeding
- Safe to use after 6th week postpartum if breastfeeding
- Injection of:
  - 150 mg DMPA IM every 3 mos.
  - 104 mg DMPA subQ every 3 months
  - NET EN 200mg every 2 months
- Women of any age and parity can use it (MEC Cat. 1, age 18–45)
- Safe to use immediately PAC

Questions ??

- When can a breastfeeding woman begin using a combined (estrogen-progestin) contraceptive?
- When can a non-breastfeeding woman begin using a combined (estrogen-progestin) contraceptive?
Combined Estrogen-Progestin Methods: Breastfeeding Women

- DO NOT use within the first 6 weeks postpartum
- NOT recommended during first 6 months postpartum due to diminished quantity of breast milk, decreased duration of lactation and possible adverse affects on infant growth


Combined Estrogen-Progestin Methods

Breastfeeding

- DO NOT use combined estrogen-progestin methods within the first 6 weeks postpartum
- NOT recommended during the first 6 months postpartum

Non-breastfeeding

- NOT recommended to use combined estrogen-progestin methods during the first 3 weeks postpartum
- Safe to start after 3 weeks post-delivery

Women Eligible for COCs without Restriction

Examples:

- Adolescents
- Nulliparous women
- Postpartum (3 weeks, if not breastfeeding)
- Immediately postabortion
- Women with varicose veins
- Any weight (including obese)


Women Who Should Not Use COCs

- Breastfeeding (<6 weeks postpartum)
- Smoke heavily AND are over age 35
- At increased risk of cardiac valvular disease
- Have certain pre-existing conditions (e.g., breast cancer, liver disease, high risk of CV disease)
- Pregnant (but no proven negative effects on fetus if taken accidentally)
Emergency Contraception

- Methods of preventing pregnancy after unprotected sexual intercourse
- Regular birth control pills used in a special higher dosage:
  - ECPs are a higher dosage of the same hormones found in daily birth control pills
  - Within 120 hours (5 days) of unprotected sex (but as soon as possible after unprotected sex)
- IUDs can also be used 5 days after unprotected sex
- Distinct from RU-486 (The Abortion Pill)
- Millions of unintended pregnancies and abortions could be averted with EC

Types of ECPs

- Progestin-only OCs – levonorgestrel-only, in preferred regimen one dose of 1.5 mg (or can be in 2 doses of 0.75mg, 12 hrs apart)
  - →88% reduction in risk (1/100 will get pregnant)
- Combined OCs: 2 doses of pills containing ethinyl estradiol (100 mcg) and levonorgestrel (0.5 mg) taken 12 hrs apart
  - →75% reduction in risk (2/100 will get pregnant)

Question ??

Within what time after intercourse will emergency contraceptive be effective?

ECP Effectiveness and Time

- ECPs are effective up to 120 hours (5 days), and thought to be slightly more effective during first 24 hours.
- This offers providers and women more flexibility of use, particularly when ECPs are not given in advance of need.
Possible Mechanisms of Action of ECPs

Depending on when used during cycle, may:

- Inhibit or delay ovulation
- Affect sperm and ovum function
- Prevention of implantation is an unlikely effect

EC pills do not interrupt an established pregnancy

Withdrawal (Coitus Interruptus)

- A traditional family planning method in which the man completely removes his penis from the vagina, and away from the external genitalia of the female partner, before he ejaculates
- CI prevents sperm from entering the woman’s vagina, thereby preventing contact between spermatozoa and the ovum

CI: Effectiveness

- When used perfectly, effectiveness can be as high as 95%
- With typical usage, effectiveness about 75–81%
- However, CI is better than no method at all!

CI or Withdrawal (cont.)

This method may be appropriate for postpartum women and couples:

- Who are highly motivated and able to use this method effectively
- With religious or other reasons for not using other methods of contraception
- Who need contraception immediately and have entered into a sexual act without alternative methods available
- Who need a temporary method while awaiting the start of another method
- Who have intercourse infrequently
Advantages of CI

- If used correctly, does not affect breastfeeding and is always available for primary use or use as a back-up method
- Involves no economic cost or use of chemicals
- No health risks associated directly with CI:
  - Men and women who are at high risk of STI/HIV infection should use a condom with each act of intercourse

Disadvantages of CI

- Does not provide protection against STIs
- Requires the man’s self control
- May reduce the pleasure of intercourse
- During withdrawal, some sperm may have already entered into the woman’s vagina

Sources:
- USAID
- WHO, Rivers of life.

To save lives, parents should wait until their baby is 2 years old before they try to get pregnant again

References

References (cont.)


References (cont.)


Web Sites:

Other Helpful Resources
- http://www.reproline.jhu.edu/
- http://www.maqweb.org/iudtoolkit/
## MODULE 14: BEST PRACTICES IN PREVENTING MOTHER-TO-CHILD TRANSMISSION OF HIV—SESSION PLAN

### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
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<th>SESSION</th>
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<tr>
<td></td>
<td>Best Practices in Preventing Mother-to-Child Transmission of HIV</td>
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### SESSION OBJECTIVES

**By the end of this session, participants will be able to:**
- Discuss best practices for antenatal, intrapartum and postpartum care of the HIV-positive mother to reduce mother-to-child transmission
- Describe the evidence supporting these practices

### METHODS AND ACTIVITIES

- **Illustrated presentation/discussion:** Best practices in preventing mother-to-child transmission (PMTCT) of HIV (45 min)
  - Use questioning of group to draw out knowledge and experience of participants. (Suggested questions provided in PowerPoint presentation.)
  - Discuss issues that arise during presentation and questioning.
  - Be sure to include:
    - Counseling issues
    - WHO's four-prong approach to PMTCT
    - Timing of transmission
    - Effects of HIV on mother and baby
    - Risk factors for MTCT
    - Counseling points
    - Antenatal care interventions to reduce MTCT
    - Interventions during labor and childbirth to reduce MTCT
    - ARVs
    - Breastfeeding issues and recommendations
    - Immediate care of the newborn whose mother is HIV-positive
    - PP family planning for the HIV-positive mother

- **Small group case study** (45 min)
  - Divide participants into groups of four to discuss questions in case study.
  - Reassemble group and discuss answers to case study questions.

**May incorporate content into Focused Antenatal Care Practice.**

### MATERIALS/RESOURCES

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- AFASS criteria handout
CASE STUDY: ANTENATAL ASSESSMENT AND CARE

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. C., a 27-year-old gravida 3/para 2, presents for her second, regularly scheduled antenatal care visit at 26 weeks’ gestation. Her first visit was at 16 weeks. At that time, Mrs. C. chose not to be tested for HIV, a test that is recommended for all pregnant women. Her other laboratory tests were normal. She lives with her husband and children in a suburb of the capital city of a country where the prevalence of HIV infection in pregnant women has increased over the past few years. You note that she looks anxious and unhappy.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. C.?

ASSESSMENT
(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. C., and why?

3. What physical examination will you include in your assessment of Mrs. C., and why?

4. What laboratory tests will you include in your assessment of Mrs. C., and why?

DIAGNOSIS
(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

History:

- During the first antenatal visit, all aspects of Mrs. C.’s history were normal, except that she opted out of HIV testing.
- During this visit, when you ask whether there is anything worrying her or anything that she would like to talk about, she reports that:
  - She is very concerned about her family history of HIV: Her brother-in-law has AIDS and his wife and their youngest child are both HIV-positive.
  - She felt embarrassed to talk about this with you at her first antenatal visit, even though you provided an opportunity for her to do so when you asked about her HIV status, offered HIV testing, and provided HIV counseling.
Best Practices in Maternal and Newborn Care Module 14: Preventing MTCT of HIV - 3

Learning Resource Package

- She knows that her husband has sexual relations with at least one other woman; however, he refuses to use a condom during intercourse with his wife. Mrs. C. has no sexual partners other than her husband.
- She is very distraught, as she fears that she may be HIV-positive.
- During this visit, all other aspects of Mrs. C.’s history are normal.

Physical Examination:
- During the first antenatal visit, all findings on physical examination were within normal range.
- During this visit, all findings on physical examination are within normal range.

Testing:
- During the first antenatal visit, she “opted out” of HIV testing; all other test results were normal as mentioned above in client profile:
  - Hemoglobin 11 gm/dL
  - RPR non-reactive
  - Blood type O, Rh positive

5. Based on these findings, what is Mrs. C.'s diagnosis (problem/need) and why?

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. C., and why?

EVALUATION
- Mrs. C. agreed to HIV testing on her last visit and now comes back to see you with the result of her HIV test, which is positive. Her tests for gonorrhea and chlamydia were negative.
- She tells you that some counseling was provided at the testing site, which was helpful, but she wants to discuss her situation further with you.
- She is very distraught.

7. Based on these findings, what is your continuing plan of care for Mrs. C.?
CASE STUDY: ANTENATAL ASSESSMENT AND CARE (PMTCT)—
ANSWER KEY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. C., a 27-year-old gravida 3/para 2, presents for her second regularly scheduled antenatal care visit at 26 weeks’ gestation. Her first visit was at 16 weeks. At that time, Mrs. C. chose not to be tested for HIV, a test that is recommended for all pregnant women. Her other laboratory tests were normal. She lives with her husband and children in a suburb of the capital city of a country where the prevalence of HIV infection in pregnant women has increased over the past few years. You note that she looks anxious and unhappy.

PRE-ASSESSMENT

1. Before beginning your assessment, what should you do for and ask Mrs. C.?
   - Mrs. C. should be greeted respectfully and with kindness and offered a seat to help her feel comfortable and welcome, establish rapport and build trust. A good relationship helps to ensure that the client will adhere to the care plan and return for continued care.
   - You should confirm (through written records and/or verbal communication) with the clinic staff member who received Mrs. C. when she first arrived at the clinic that she has undergone a Quick Check. If she has not, you should conduct a Quick Check now. The Quick Check detects signs/symptoms of life-threatening complications so that a woman requiring emergency care receives it without delay, before proceeding with routine basic assessment and care.

ASSESSMENT

(Information gathering through history, physical examination, and testing)

2. What history will you include in your assessment of Mrs. C., and why?
   - Because Mrs. C. appears anxious and unhappy, she should be asked if there is anything worrying her or anything that she would like to talk about. Her response may point toward the underlying reason for her apparent anxiety/unhappiness.
   - Because this is Mrs. C.’s second visit and her first visit was normal, an interim history can be taken (i.e., a complete history is not needed): Mrs. C. should be asked if anything has changed (e.g., personal information, daily habits or lifestyle) or if she has experienced any danger signs or had any problems since her last visit. She should also be asked if she has received care from any other caregiver since her last visit, and if she has been able to follow the plan of care discussed at her first visit. Some responses may point toward the underlying
reason for her apparent anxiety/unhappiness, or may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

3. What physical examination will you include in your assessment of Mrs. C., and why?

- Because this is Mrs. C.’s second visit and her first visit was normal, a shortened physical examination can be performed (i.e., well-being, blood pressure, and abdomen [fundal height, lie, presentation, fetal heart rate], but breast and genital examination only as needed) to guide further assessment and help individualize care provision. Some findings may indicate a special need/condition that requires additional care or a life-threatening complication that requires immediate attention.

4. What laboratory tests will you include in your assessment of Mrs. C., and why?

- Because she “opted out” of HIV testing during the first visit, you should encourage Mrs. C. to be tested for HIV (as well as for other sexually transmitted infections [STIs], such as gonorrhea and chlamydia, if available) at this visit. HIV testing should be offered at every visit, even if the woman has chosen not to be tested in the past. This is especially important given Mrs. C.’s history.
- Because this is Mrs. C.’s second visit and at her first visit lab tests were normal, you do not need to conduct other tests.

**DIAGNOSIS**

(Interpreting information to identify problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

**History:**

- During the first antenatal visit, all aspects of Mrs. C’s history were normal, except that she opted out of HIV testing.
- During this visit, when you ask whether there is anything worrying her or anything that she would like to talk about, she reports that:
  - She is very concerned about her family history of HIV: Her brother-in-law has AIDS and his wife and their youngest child are both HIV-positive.
  - She felt embarrassed to talk about this with you at her first antenatal visit, even though you provided an opportunity for her to do so when you asked about her HIV status, offered HIV testing, and provided HIV counseling.
  - She knows that her husband has sexual relations with at least one other woman; however, he refuses to use a condom during intercourse with his wife. Mrs. C. has no sexual partners other than her husband.
  - She is very distraught, as she fears that she may be HIV-positive.
- During this visit, all other aspects of Mrs. C.’s history are normal.

**Physical Examination:**

- During the first antenatal visit, all findings on physical examination were within normal range.
During this visit, all findings on physical examination are within normal range.

Testing:
- During the first antenatal visit, she “opted out” of HIV testing; all other test results were normal as mentioned above in client profile.
- Hemoglobin 11 gm/dL
- RPR non-reactive
- Blood type O, Rh positive

5. Based on these findings, what is Mrs. C.'s diagnosis (problem/need), and why?
- Mrs. C.’s pregnancy is progressing normally; however, she has a very real fear of being HIV-positive, especially given the prevalence of HIV in her country and the fact that her husband is not monogamous and does not practice safer sex with her.

CARE PROVISION
(Implementing plan of care and interventions)

6. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. C., and why?
- Provide information on the advantages and disadvantages of knowing her HIV status, how the test is performed, when and how results are given, how confidentiality is maintained, and how the results will help to manage the pregnancy and birth. This will encourage Mrs. C. to opt for HIV and STI testing, which will provide information she needs to allay her anxiety and to take good care of herself. By knowing her status, Mrs. C. can take steps to remain uninfected (if negative) or begin appropriate care (if positive)—either of which can have positive health benefits during this pregnancy.
- You should also discuss the advantages and disadvantages of involving her partner in the decision for her and/or him to be tested. This will help Mrs. C. decide how to involve her family.
- Mrs. C. should be provided with key information about HIV/AIDS and other STIs, including risk assessment, prevention and safer sex practices. Counseling should be provided in a respectful, kind manner, while encouraging Mrs. C. to ask questions and ensuring that she understands the information provided. This will encourage Mrs. C. to opt for HIV and STI testing.
- If testing and counseling for HIV are not part of antenatal care services offered at your facility, information should be provided on how to gain access to them. If the test for HIV is performed elsewhere, Mrs. C. should be encouraged to share her test results with the health care provider (you) at the antenatal clinic, because knowledge of her HIV status will help guide her care during the pregnancy and birth.
- Because this is not Mrs. C.’s first visit, key elements of the care plan have already been carried out or initiated. During this visit, reinforce key messages (e.g., about nutrition, hygiene/prevention of infection, sexual relations and safer sex, rest and activity, use of potentially harmful substances); review and update the birth plan (including complication readiness); provide or replenish supplies of iron/folate (and any other supplements/drugs),
IPT if in a malaria-endemic area, and other preventive measures as needed. These routine interventions will help support and maintain her normal pregnancy, and ensure a healthy labor/childbirth and postpartum/newborn period.

**EVALUATION**

- Mrs. C. agreed to HIV testing on her last visit and now comes back to see you with the result of her HIV test, which is positive. Her tests for gonorrhea and chlamydia were negative.
- She tells you that some counseling was provided at the testing site, which was helpful, but she wants to discuss her situation further with you.
- She is very distraught.

7. **Based on these findings, what is your continuing plan of care for Mrs. C?**

- Mrs. C. should be provided emotional support.
- Any concerns or questions she has should be addressed in a kind and caring manner.
- The possibility of disclosure to her husband and family should be discussed.
- Mrs. C. should be assessed for signs/symptoms of complications related to the HIV infection (e.g., opportunistic infections, diarrhea, weight loss) and non-urgent referral/transfer should be facilitated if necessary.
- Information about and/or referral to an HIV specialist should be provided so that Mrs. C. can receive the appropriate care.
- Information should be provided about any available psychosocial and practical support services for people living with HIV/AIDS, as well as about how to access these services.
- Begin discussion about infant feeding issues/decisions and contraception possibilities.
- A follow-up appointment should be made for 1 week to discuss the following issues: the psychosocial implications of the positive result for herself, her unborn child, and her partner; prevention of mother-to-child transmission; antiretroviral (ARV) prophylaxis, if available; nutrition; safer sex; newborn feeding; family planning; and planning for the future. It will also be important to emphasize the need for a skilled provider to attend the birth and to have the birth at a facility where PMTCT services, including ARV prophylaxis for Mrs. C. and her newborn, are available.
- After the next visit, if Mrs. C. is coping well with her situation, has appropriate support, shows no signs of complications related to the HIV infection (e.g., opportunistic infections, diarrhea, weight loss), and is adhering to the care plan and other recommendations, she can resume the normal schedule of antenatal visits. There is no evidence that HIV-positive women, whose pregnancies are progressing normally and who are otherwise healthy, require additional antenatal visits. Most HIV-positive women will be asymptomatic and have no increased incidence of obstetrical problems during their pregnancies; however, ongoing counseling and support, in addition to ongoing care with an HIV specialist, are an integral part of care during pregnancy for the HIV-positive woman.
DESCRIPTION OF THE AFASS CRITERIA

ACCEPTABLE: The mother perceives no barrier to replacement feeding. Barriers may have cultural or social reasons, or be due to fear of stigma or discrimination. According to this concept, the mother is under no social or cultural pressure not to use replacement feeding, and she is supported by family and community in opting for replacement feeding, or she will be able to cope with pressure from family and friends to breastfeed, and she can deal with possible stigma attached to being seen with replacement food.

FEASIBLE: The mother (or family) has adequate time, knowledge, skills and other resources to prepare the replacement food and feed the infant up to 12 times in 24 hours. According to this concept the mother can understand and follow the instructions for preparing infant formula and with support from the family can prepare enough replacement feeds correctly every day, and at night, despite disruptions to preparation of family food or other work.

AFFORDABLE: The mother and family, with community or health-system support if necessary, can pay the cost of purchasing/producing, preparing and using replacement feeding, including all ingredients, fuel, clean water, soap and equipment, without compromising the health and nutrition of the family. This concept also includes access to medical care if necessary for diarrhea and the cost of such care.

SUSTAINABLE: A continuous and uninterrupted supply and dependable system of distribution for all ingredients and products needed for safe replacement feeding, for as long as the infant needs it, up to one year of age or longer, are available. Also, the mother and family are reasonably certain that they will be able to pay the costs cited under “Affordable” for as long as the infant needs replacement feeding.

SAFE: Replacement foods are correctly and hygienically prepared and stored, and fed in nutritionally adequate quantities, with clean hands and using clean utensils, preferably by cup. This concept means that the mother or caregiver:
- Has access to a reliable supply of safe water (from a piped or protected-well source)
- Prepares replacement feeds that are nutritionally sound and free of pathogens
- Is able to wash hands and utensils thoroughly with soap, and to regularly boil the utensils to sterilize them
- Can boil water for preparing each of the baby’s feeds
- Can store unprepared feeds in clean, covered containers and protect them from rodents, insects and other animals.

KNOWLEDGE ASSESSMENT: PREVENTING MOTHER-TO-CHILD TRANSMISSION OF HIV

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. A key risk factor for mother-to-child transmission of HIV is:
   a. High viral load of the mother
   b. Advanced age of the mother
   c. Parity of the mother

2. Some intrapartum interventions to reduce the risk of MTCT include:
   a. Using good infection prevention measures
   b. Avoiding artificial rupture of membranes and unnecessary trauma
   c. Avoiding prolonged rupture of membranes
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Counseling to prevent acquiring HIV is important for HIV-negative women but not for HIV-positive women. _____

4. ARVs should be provided during pregnancy for the health of the baby but not for the mother. _____

5. There is no evidence of increased MTCT from vaginal rather than C-section delivery if appropriate ARVs are used and the viral load is controlled. _____

6. MTCT is less likely if exclusive breastfeeding rather than mixed feeding is used. _____

7. For HIV survival, all women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe (AFASS) should be encouraged to exclusively breastfeed their infant for 6 months. _____
KNOWLEDGE ASSESSMENT: PREVENTING MOTHER-TO-CHILD TRANSMISSION OF HIV—ANSWER KEY

**Instructions:** Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. A key risk factor for mother-to-child transmission of HIV is:
   a. **High viral load of the mother**
   b. Advanced age of the mother
   c. Parity of the mother

2. Some intrapartum interventions to reduce the risk of MTCT include:
   b. Using good infection prevention measures
   c. Avoiding artificial rupture of membranes and unnecessary trauma
   d. Avoiding prolonged rupture of membranes
   e. a) and b)
   f. **All of the above**

**Instructions:** In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Counseling to prevent acquiring HIV is important for HIV-negative women but not for HIV-positive women. **FALSE**

4. ARVs should be provided during pregnancy for the health of the baby but not for the mother. **FALSE**

5. There is no evidence of increased MTCT from vaginal rather than C-section delivery if appropriate ARVs are used and the viral load is controlled. **TRUE**

6. MTCT is less likely if exclusive breastfeeding rather than mixed feeding is used. **TRUE**

7. For HIV survival, all women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe (AFASS) should be encouraged to exclusively breastfeed their infant for 6 months. **TRUE**
Best Practices in Maternal and Newborn Care

Session Objectives

- To discuss best practices for antenatal, intrapartum and postpartum care of the HIV-positive mother to reduce mother-to-child transmission
- To describe the evidence supporting these practices

HIV-Related Counseling Issues during Pregnancy

- Educate/counsel regarding HIV and pregnancy:
  - Impact of HIV on pregnancy and pregnancy on HIV
  - Maternal health
  - Long-term health of mother and care for children
  - Perinatal transmission
  - Use of antiretrovirals and other drugs in pregnancy
- Counseling before pregnancy is important:
  - However, antenatal care may provide the first opportunity for education and counseling regarding HIV

WHO’s Four-Prong Approach to PMTCT

I. Primary prevention of HIV

II. Prevention of unintended pregnancy

III. Prevention of MTCT

IV. Linkage to Care and Support

Uninfected Parents to be

HIV-infected woman

Pregnant HIV-infected woman

HIV-infected infant

AIDS and Death
Question ??

When does most transmission of HIV from mother to child occur?

Timing of Mother-to-Child Transmission of HIV

- During pregnancy (5-10%)
- During labor and delivery (10-20%)
- During breastfeeding (5-10%)

Question ??

What are some of the effects of HIV infection in the mother on the pregnancy and health of the newborn?

Adverse Pregnancy Outcomes and Relationship to HIV Infection

<table>
<thead>
<tr>
<th>Pregnancy Outcome</th>
<th>Relationship to HIV Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous abortion</td>
<td>Limited data, but evidence of possible increased risk</td>
</tr>
<tr>
<td>Stillbirth</td>
<td>No association noted in developed countries; evidence of increased risk in developing countries</td>
</tr>
<tr>
<td>Perinatal mortality</td>
<td>No association noted in developed countries, but data limited; evidence of increased risk in developing countries</td>
</tr>
<tr>
<td>Newborn mortality</td>
<td>Limited data in developed countries; evidence of increased risk in developing countries</td>
</tr>
<tr>
<td>Intrauterine growth restriction</td>
<td>Evidence of possible increased risk</td>
</tr>
</tbody>
</table>

Adverse Pregnancy Outcomes and Relationship to HIV Infection - 2

<table>
<thead>
<tr>
<th>Pregnancy Outcome</th>
<th>Relationship to HIV Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birth weight</td>
<td>Evidence of possible increased risk</td>
</tr>
<tr>
<td>Preterm delivery</td>
<td>Evidence of possible increased risk, especially w/ more advanced disease</td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>No data</td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>No data</td>
</tr>
<tr>
<td>Amnionitis</td>
<td>Limited data; more recent studies do not suggest an increased risk; some earlier studies found increased histologic placental inflammation, particularly in those with preterm deliveries</td>
</tr>
<tr>
<td>Oligohydramnios</td>
<td>Minimal data</td>
</tr>
<tr>
<td>Fetal malformation</td>
<td>No evidence of increased risk</td>
</tr>
</tbody>
</table>


Risk Factors for MTCT

Viral
- Viral load (the higher the viral load, the greater the risk of HIV transmission)
- Viral genotype and phenotype
- Viral resistance

Maternal
- Maternal immunological status
- Maternal nutritional status
- Maternal clinical status (including co-infection with an STI)
- Behavioral factors
- Antiretroviral treatment

Risk Factors for MTCT (cont.)

Obstetrical
- Prolonged rupture of membrane (longer than 4 hours)
- Mode of delivery
- Intrapartum hemorrhage
- Obstetrical procedures
- Invasive fetal monitoring

Fetal
- Prematurity
- Genetic
- Multiple pregnancy

Infant
- Breastfeeding
- Gastrointestinal tract factors
- Immature immune system

Question ??

What points are important when counseling an HIV-positive pregnant woman?
**Counseling HIV-Positive Pregnant Women**

- Effect of pregnancy on HIV infection
- Effect of HIV on pregnancy outcome
- Risk of transmission to fetus and infant
- Treatment options in pregnancy
- Interventions to prevent mother-to-infant transmission
- Infant feeding options
- Disclosure of results to partner
- Need for follow-up of mother and child
- Future fertility and contraceptive options

**Antenatal Care**

- ANC allows interaction between the health facility and sexually active women to:
  - Provide information on HIV
  - Promote safer sex practices
  - Provide opportunity for the pregnant woman to know her HIV status
  - Reduce social stigmatization
  - Identify and treat STIs
  - Provide malaria prophylaxis (IPT)

**Question ??**

What measures can you take during antenatal care (ANC) of an HIV-positive woman to reduce the risk of transmission of HIV?

**Antenatal Interventions to Reduce MTCT**

- HIV testing and counseling services
- Behavior change communication:
  - Sexual
  - Injection drug use
  - Alcohol use and smoking
- Prevention of new infections in pregnancy
- Identification and treatment of STIs (genital ulcers and abnormal vaginal discharge)
Antenatal Interventions to Reduce MTCT (cont.)

- Prevention and treatment of anemia (balanced diet and nutritional supplementation)
- Avoiding invasive testing procedures in pregnancy:
  - Amniocentesis
  - Chorionic villus sampling
  - Cordocentesis
  - External cephalic version

Antenatal Interventions to Reduce MTCT (cont.)

- Antiretroviral prophylaxis:
  - During pregnancy
  - In labor
  - Postpartum
  - (ARVs should be provided to the mother for her health as well as for the health of the baby)
  - Physical examination to detect any signs of HIV-related illness

Antenatal Interventions to Reduce MTCT (cont.)

- Iron and folate
- Multivitamin supplementation
- Tetanus toxoid immunization
- Intermittent preventive treatment (IPT) with sulfadoxine-pyrimethamine (SP) for malaria, in endemic areas, as per WHO recommendations

Antenatal Interventions to Reduce MTCT (cont.)

- Mebendazole at first visit in areas of high worm prevalence
- Isoniazid (INH) prophylaxis for tuberculosis (TB) if indicated
- Pneumocystis carinii pneumonia (PCP) prophylaxis, in women with clinical signs of AIDS or CD4 counts of below 200 mm3
- Psychological support
Case Study

- Divide participants into groups of four
- Provide case study on PMTCT during ANC
- Each group should discuss and record answers to questions
- Following group work, reassemble group for discussion of answers

Intrapartum Interventions to Reduce MTCT

- Use of universal IP precautions
- Application of good infection prevention practices during pelvic examinations and delivery
- Avoiding unnecessary artificial rupture of membranes
- Avoiding prolonged labor and prolonged rupture of membranes

Question ??

What measures can you take during labor and delivery to reduce the risk of transmission of HIV?

Intrapartum Interventions to Reduce MTCT (cont.)

- Avoid unnecessary trauma during delivery:
  - Unnecessary episiotomy
  - Fetal scalp electrode monitoring
  - Forceps delivery
  - Vacuum extraction
Vaginal vs. Caesarean

<table>
<thead>
<tr>
<th>Risk Concern</th>
<th>Vaginal</th>
<th>Cesarean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood loss</td>
<td>-</td>
<td>Increased ↑</td>
</tr>
<tr>
<td>Infection</td>
<td>-</td>
<td>Increased in HIV+ women;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>antibiotic prophylaxis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>recommended ↑</td>
</tr>
<tr>
<td>MTCT</td>
<td>No evidence of increased MTCT with ARV Rx and adequate viral load</td>
<td>Reduces risk of MTCT if performed before labor onset ↓</td>
</tr>
<tr>
<td>Mortality</td>
<td>-</td>
<td>Increased ↑</td>
</tr>
<tr>
<td>Resource issues</td>
<td>-</td>
<td>Requires greater resources (supplies, equipment, staff) ↑</td>
</tr>
</tbody>
</table>

Intrapartum Interventions to Reduce MTCT (cont.)

- Minimize risk of PPH (to protect mother’s health and decrease provider exposure to blood):
  - Active management of 3rd stage:
    - Administer oxytocin immediately after delivery
    - Controlled cord traction
    - Uterine massage
  - Repair any genital tract lacerations
  - Carefully remove all products of conception

Eligible Women Remain on Therapy

Women who are eligible for ARV therapy should be on, and should remain on, this therapy throughout pregnancy

Effective ARV for Mother Who Is not Eligible for ARVs

Antenatal:
- AZT from 28 weeks of pregnancy, plus
- AZT and 3TC + Sd-NVP intrapartum, plus
- AZT and 3TC for 7 days postpartum

AZT = zidovudine
3TC = lamivudine
Sd-NVP = single dose nevirapine
**ARV for the Newborn**

For 7 days:
- Sd-NVP, plus
- AZT

If the mother receives less than 4 weeks of AZT during pregnancy, the newborn should have 4 weeks rather than 1 week of AZT

*Source: WHO 2006.*

---

**When no ARV before Labor**

- When delivery occurs within 2 hours of a woman’s taking Sd-NVP, the infant should receive Sd-NVP immediately after birth and AZT for 4 weeks
- To reduce NVP resistance, the mother should receive a nucleoside reverse transcriptase inhibitor (NRTI), such as AZT and 3TC, for 7 days postpartum if she receives Sd-NVP during labor

*Source: WHO 2006.*

---

**ARVs are not only for the baby!**

In settings where ARVs are available for the treatment of the mother, these should be given according to local protocol

*---*

**Infant Feeding Options for the HIV Infected Mother**

“A little bit of this and a little bit of that is not best for the baby!”

Avoid mixed feeding!
Breastfeeding

- For HIV survival, all women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe (AFASS) should be encouraged to exclusively breastfeed their infant for 6 months
- Exclusive breastfeeding should be encouraged among all women, regardless of HIV status
- A woman should be supported in her infant feeding decision; the choice is hers

Ongoing Care

All HIV infected mothers should be linked to care and support to help keep them in the best health possible

Newborn

- Handle with gloves until maternal blood and secretions have been washed off
- Wash newborn after birth, especially face
- Avoid hypothermia
- Give antiretroviral agents, if available
- Watch for anemia
- Follow up infant for infection
Immediate Care of the Neonate

- Cut cord under cover of a lightly wrapped gauze swab, to prevent blood spurting
- Handle all babies, regardless of the mother’s HIV status, with gloves until maternal blood and secretions are washed off
- All babies, irrespective of HIV status, should be kept warm post-delivery

Immediate Care of the Neonate (cont.)

- Do not suction the newborn with a nasogastric (NG) tube unless there has been meconium-stained liquid. Where suctioning is required:
  - Use a mechanical suction unit (at a pressure below 100mm Hg) or bulb suction, if possible, rather than the mouth operated suction. Do not use the bulb syringe for another baby.
  - Attach the baby to the mother’s breast only if the mother has made a prior decision to breastfeed.

Immediate Care of the Neonate (cont.)

- If the mother has decided not to breastfeed, place the baby on the mother’s body for skin-to-skin contact. Provision should be made to provide the mother with infant formula.
- Vitamin K should be administered as per national guidelines.
- BCG should be administered according to the national/WHO immunization guideline.
- Antibiotic or 1% silver nitrate eye ointment should be administered as prophylaxis against ophthalmia neonatorum according to the national/WHO immunization guideline.

Question?

What breastfeeding issues must be considered when helping an HIV-positive mother to decide whether or not to breastfeed?
### Breastfeeding Issues

- Warmth for newborn
- Nutrition for newborn
- Protection against other infections
- Risk of HIV transmission
- Contraception for mother
- AFASS - the mother who is infected with HIV should breastfeed unless replacement feeding is acceptable, feasible, affordable, safe and sustainable (AFASS)

### Breastfeeding Recommendations

If the woman is:

- HIV-negative or does not know her HIV status, promote exclusive breastfeeding for 6 months
- HIV-positive, meets AFASS criteria, and chooses to use replacement feedings, counsel on the safe and appropriate use of formula
- HIV-positive and chooses to breastfeed, promote exclusive breastfeeding for 6 months

### Goals of FP for HIV-Infected Women

- Prevention of unintended pregnancy
- Appropriate child spacing to reduce maternal and infant morbidity and mortality

### Special Considerations for Choosing FP Method

- Effectiveness
- Safety/side effects
- Effect on HIV transmission or progression
- Effect on STI transmission or acquisition
- Ease of use
- Non-contraceptive benefits
- Potential interactions with other medications
Condoms and HIV

Male or female condoms combine protection from...

- STDs!
- Pregnancy!
- HIV re-infection!

Key Take-Away Points

- Women with HIV infection require routine antenatal care provided in accordance with national protocols.
- HIV can be transmitted from an infected mother to her child during pregnancy, labor and delivery, or through breastfeeding.
- Antiretroviral prophylaxis regimens reduce the risk of MTCT in both breastfeeding and non-breastfeeding women.

Key Take-Away Points (cont.)

- Women should be monitored for signs or symptoms of progressive HIV/AIDS, and opportunistic infections, particularly tuberculosis (TB).
- Use of universal precautions protects health care providers from HIV and other blood-borne infections.

Key Take-Away Points (cont.)

- Replacement feeding or exclusive breastfeeding should be recommended to reduce the risk of MTCT during the postnatal period.
- Decisions about infant feeding options should be made before delivery or when the mother leaves the clinic or hospital after delivery.
References


References (cont.)


### References (cont.)


# Module 15: Best Practices in Rapid Initial Assessment, Shock, Resuscitation and Emergency Management—Session Plan

## Maternal and Newborn Care: Technical Update

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Rapid Initial Assessment, Shock, Resuscitation and Emergency Management</td>
<td>120 min</td>
</tr>
</tbody>
</table>

## Session Objectives

*By the end of this session, participants will be able to:*

- Discuss best practices for the initial assessment of obstetrical patients
- Discuss best practices in the management of shock
- Describe the steps of adult resuscitation
- Discuss the management of emergencies and emergency drills
- List the contents of an emergency tray

## Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated lecture/discussion: Emergency preparedness and resuscitation (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use questions and discussion throughout presentation.</td>
</tr>
<tr>
<td>Present and discuss:</td>
</tr>
<tr>
<td>- Definition of rapid initial assessment</td>
</tr>
<tr>
<td>- Components of assessment</td>
</tr>
<tr>
<td>- ABC of Resuscitation</td>
</tr>
<tr>
<td>- Definition of shock</td>
</tr>
<tr>
<td>- When to anticipate shock</td>
</tr>
<tr>
<td>- Signs and symptoms of shock</td>
</tr>
<tr>
<td>- Immediate management of shock</td>
</tr>
<tr>
<td>- Further management of shock</td>
</tr>
<tr>
<td>- The composition of an emergency team</td>
</tr>
<tr>
<td>- The components of an emergency tray/trolley</td>
</tr>
<tr>
<td>- Implementation of a rapid assessment team</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demonstration: Emergency drill (60 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow guidelines of emergency drill handout.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Discussion: Using an emergency drill (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are important elements of preparation for an emergency?</td>
</tr>
<tr>
<td>What did you notice was most difficult for those implementing the emergency drill?</td>
</tr>
<tr>
<td>How might they improve?</td>
</tr>
<tr>
<td>Are there ways you can improve emergency preparedness at your work site?</td>
</tr>
<tr>
<td>What elements made this an effective teaching tool?</td>
</tr>
<tr>
<td>How could this drill have been improved?</td>
</tr>
<tr>
<td>When and how can you use such a drill in your teaching?</td>
</tr>
</tbody>
</table>

## Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Emergency drill handout
- All equipment and supplies (simulated) for emergency drill: emergency tray, BP apparatus, stethoscope, equipment for starting IV infusion, syringes and vials, oxygen cylinder, mask and tubing, bladder catheterization equipment, exam or high-level disinfected gloves
HANDOUT: EMERGENCY DRILLS

Emergency drills provide participants with opportunities to observe and take part in an emergency rapid response system. Unscheduled emergency drills should be a part of each service provision unit that potentially encounters emergencies. Frequent drills help ensure that each member of the emergency team knows her/his role and is able to respond rapidly. By the end of the training, participants should be able to conduct drills in their own facilities.

Drills can be conducted several times throughout training, and involve facilitators/teachers and participants. The steps involved in setting up and conducting a drill are described below.

FIRST DRILL

Facilitators/teachers decide on a scenario, such as one in which a woman suffers an immediate postpartum hemorrhage. In the first drill, facilitators play all roles as in a demonstration. A participant may play the role of patient. Facilitators should practice their roles before conducting the drill.

The roles are as follows:

Role 1: Charge Person
- Receives patient
- Does quick assessment / rapid appraisal and decides on management steps
- Stabilizes patient (Massages uterus, gives oxytocin, initiates immediate resuscitation, gives directions to others)
- Stays with patient until specialized care arrives or referral
- Documents findings and action taken

Role 2: Runner
- Sounds alarm, telephones or runs to inform doctor
- Brings emergency tray or trolley to site
- Assists as needed (e.g., gathers equipment, starts, administers emergency drugs, ventilation, cardiac massage etc.)
- Monitors vital signs
- Records vital signs and treatment given

Role 3: Supplier
- Checks emergency tray/trolley at the beginning of each shift
- Brings protective wear to site when alarm is raised
- Brings trolley/drip stand as needed
- Takes samples/specimens to lab
Calls lab technician if bedside lab work is needed

**Role 4: Assistant**

- Cares for newborn if well
- Assists with crowd control
- Reassures relatives/friends; escorts family members away from bed; keeps patient and family informed of situation
- Assists in clean-up of patient

At a pre-designated time, a small bell is rung. The participant selected to play the role of patient lies down on a table or bed; she has a newborn anatomic model. Another participant may act as the patient’s family member. The charge person (Role 1) goes directly to the bedside and begins the rapid initial assessment. The runner (Role 2) telephones or runs to inform the doctor and returns to the bedside; the charge person should tell the runner to take vital signs. The supplier (Role 3) brings the emergency tray and assists with giving oxytocin, starting an IV, etc. The assistant (Role 4) takes the newborn and tells the family what is happening. All of this occurs simultaneously, as though it were a real situation. The charge person “massages” the woman’s uterus and reports whether it is contracted; the runner takes the pulse, blood pressure and respiration and reports to the charge person; the assistant “gives” oxytocin if directed, etc. Upon arrival of the doctor, the charge person gives her/him a report of the patient’s status and follows further directions until the patient is stable. After the emergency, the supplies are replenished, and equipment is disposed of using correct infection prevention practices.

**SUBSEQUENT DRILLS**

At each subsequent drill, participants take the four designated roles. At the beginning of the day, participants are assigned a role, and when the bell rings signaling an emergency, these roles are assumed and played. Different scenarios can be used for each drill.

The focus of emergency drills is on rapidity of response and coordinated functioning of roles. Drills should occur at unannounced and unexpected times during clinical training as well as during routine clinical work, even when training is not occurring, in order to maintain a unit’s capacity to respond to emergencies **rapidly and effectively**.
KNOWLEDGE ASSESSMENT: RAPID INITIAL ASSESSMENT, SHOCK, RESUSCITATION AND EMERGENCY MANAGEMENT

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. In a rapid initial assessment of airway and breathing, you should look for all of the following except:
   a. Respiratory distress
   b. Low blood pressure
   c. Cyanosis
   d. Skin pallor

2. What immediate steps would you take if you find a pregnant woman in shock:
   a. Monitor vital signs
   b. Shout for help
   c. Elevate her legs
   d. All of the above

3. An emergency tray should include all of the following except:
   a. Ambu bag and airway
   b. Sphygmomanometer
   c. Scissors
   d. Tourniquet
   e. Gloves
   f. Hair and shoe covers

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. In order to be prepared for an emergency, you should form an emergency team as soon as possible when the emergency arises.  

5. An emergency pack for eclampsia should include all of the following: IV fluid, cannula and administration set, specimen container, gloves, catheter, MgSO4 and antihypertensive.
KNOWLEDGE ASSESSMENT: RAPID INITIAL ASSESSMENT, SHOCK, RESUSCITATION AND EMERGENCY MANAGEMENT—ANSWER KEY

**Instructions:** Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. In a rapid initial assessment of airway and breathing, you should look for all of the following except:
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   d. Tourniquet
   e. Gloves
   f. Hair and shoe covers

**Instructions:** In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. In order to be prepared for an emergency, you should form an emergency team as soon as possible when the emergency arises.  
   FALSE

5. An emergency pack for eclampsia should include **all** of the following: IV fluid, cannula and administration set, specimen container, gloves, catheter, MgSO4 and antihypertensive.  
   TRUE
Session Objectives

- To discuss best practices for the initial assessment of obstetrical patients
- To discuss best practices in the management of shock
- To discuss adult resuscitation
- To describe an emergency tray/trolley
- To discuss the management of emergencies and emergency drills

Definition

A quick check of a woman’s condition when she presents with a problem to rapidly determine her degree of illness

Question ??

What would you include in a rapid initial assessment?
Assess Condition

- Airway and breathing
- Circulation (signs of shock)
- Vaginal bleeding (early or late pregnancy or after childbirth)
- Unconscious or convulsing
- Dangerous fever
- Abdominal pain

Assess Airway and Breathing

- Danger signs:
  - Look for:
    - Cyanosis
    - Respiratory distress
  - Examine:
    - Skin: Pallor
    - Lungs: Wheezing or rales
- Consider:
  - Severe anemia
  - Heart failure
  - Pneumonia
  - Asthma

ABC of Adult Resuscitation: What To Do!

- Airway: check airway: if not breathing:
  Clear airway, position head back to prevent tongue falling back, place in airway

- Breathing: no breath chest movements
  Help client breath by ventilating (mouth to mouth, mouth to mask, Ambu bag) with/or without oxygen

- Circulation no pulse or heartbeat:
  Begin cardiac massage and check response (5:1 heart compressions : respiration effort)

Assess Circulation

- Examine:
  - Skin: Cool and moist
  - Pulse: Fast (110 beats/min. or more) and weak
  - Blood pressure: Low (systolic less than 90 mm Hg)
- Consider shock even if blood pressure is normal
Definition of Shock

- Failure of circulatory system to maintain adequate perfusion of vital organs
- LIFE-THREATENING
- REQUIRES IMMEDIATE AND INTENSIVE TREATMENT

When to Expect or Anticipate Shock

- Bleeding:
  - Early pregnancy (e.g., abortion, ectopic pregnancy, molar pregnancy)
  - Late pregnancy or labor (e.g., placenta previa, abruptio placentae, ruptured uterus)
  - After childbirth (e.g., ruptured uterus, uterine atony)
- Infection (e.g., unsafe or septic abortion, amnionitis, metritis)
- Trauma (e.g., injury to uterus or bowel during abortion, ruptured uterus)

Question ??

When would you anticipate shock?

Question ??

What are the signs and symptoms of shock?
**Symptoms and Signs of Shock**

- Fast, weak pulse (110 beats/min. or more)
- Low blood pressure (systolic less than 90 mm Hg)
- Pallor (inner eyelids, palms, around mouth)
- Sweatiness or cold clammy skin
- Rapid breathing (30 breaths/min. or more)
- Anxiousness, confusion, unconsciousness
- Low urine output (less than 30 mL/hour)

**Question ??**

What are the very first things you would do if you come upon a patient in shock?

**Immediate Management of Shock**

- Shout for help—mobilize personnel
- Monitor vital signs
- Position woman onto her side
- Keep woman warm
- Elevate her legs
- Collect blood for testing

**Specific Management**

- Start IV infusion (two if possible):
  - Infuse fluids at a rate of 1 L in 15–20 min., then give at least 2 L of fluids in first hour
  - If shock results from bleeding, more rapid infusion is necessary
- Monitor vital signs
- Catheterize bladder
- Give oxygen at 6–8 L/min.
- Blood work: Hemoglobin, cross-match
- Manage specific cause
Shock: Further Management

- Continue IV infusion at 1 L in 6 hours and oxygen at 6–8 L/min.
- Monitor closely
- Perform lab tests for hematocrit, blood grouping, Rh typing and cross-match
- If facilities available, check serum electrolytes, serum creatinine and blood pH

Question ??

What could you do to help your staff be ready for an emergency?

The Emergency Team

- Remember: Everybody can resuscitate when necessary
- Have a recognized team who are trained and ready for emergencies
- The roles: Charge Person
  Runner
  Supplier
  Assistant

Responsibilities – Person One: Charge Person

- Receives patient
- Does quick assessment/rapid appraisal and decides on management steps
- Stabilizes patient (massages uterus, gives oxytocin, initiates immediate resuscitation, gives directions to others)
- Stays with patient until specialized care arrives or referral
- Documents findings and action taken
Person Two: Runner
- Sounds alarm, telephones or runs to inform doctor when alarm is raised
- Brings emergency tray or trolley to site
- Assists as needed (e.g., gathers equipment, starts, administers emergency drugs, ventilation, cardiac massage, etc.)
- Monitors vital signs
- Records vital signs and treatment given

Person Three: Supplier
- Checks emergency tray at beginning of each shift
- Brings emergency tray to site of emergency
- Brings protective wear to site when alarm is raised
- Brings trolley/drip stands, etc., as needed
- Takes sample to labs
- Calls lab technician if bedside lab work necessary

Person Four: Assistant
- Cares for newborn if well
- Reassures relatives/friends – escorts family members away from bed; keeps family informed of situation
- Assists with crowd control as needed
- Assist in clean up of patient

Question ??
What should be included on an emergency tray?
Emergency Tray/Trolley

Items List:
- Ambu bag + face mask
- Airway
- Sphygmanometer
- Stethoscope
- Cotton swabs
- Gauze dressings
- Plaster
- Scissors
- Torniquet
- Gloves
- Syringes and needles
- Emergency packs:
  - e.g., PPH, eclampsia
- IV fluids
- Drugs
- Oxygen source + tube
- Foley catheter

O/G Emergency Packs

- Surgical/for shock
- IV Fluid 1 l (N/S or rl)
- IV Cannula (X2)
- Blood-giving set
- Specimen cont (G/xm)
- Foley catheter
- Pair of gloves
- Drugs:
  - Oxytocin 20 u (x2)
  - Ergot 0.2mg (X 2)
- Medical/e.g., eclampsia
- IV fluid 1 l (D/S or rl)
- IV cannula (X2)
- Administration set
- Specimen container
- Pair of gloves
- Foley catheter
- Drugs:
  - Mag so4
  - NIFÉDIPIINE 20mg
  - HYDRAZINE 20mg
  - Calcium gluconate

Implementing a Rapid Assessment Scheme

- Train ALL staff to react in agreed-upon fashion when woman arrives at facility with obstetric emergency or pregnancy complication
- Practice clinical drills or emergency drills with staff to ensure readiness at all levels
- Ensure that access is not blocked, equipment is in working order and staff are properly trained to use equipment

Implementing a Rapid Assessment Scheme (cont.)

- Develop norms and protocols to distinguish a real emergency and how to react immediately
- Clearly identify women in waiting room who need prompt or immediate attention
- Agree on schemes by which women with emergencies can be exempted from payment, at least temporarily
Team Work

- Roles and responsibilities are defined on each shift
- PROMPT RESPONSE to emergency call
- Regular training
- Emergency tray must always be in readiness

Emergency Drill: Demonstration

- Scenario (role play) selected, such as the one on emergency drill handout
- Roles of patient and family can be played by participants
- Roles described on previous slides are played by trainers or by pre-assigned participants who have practiced roles
- At a pre-designated time, a bell is rung, and role play begins
- Following role play, the group (observers, role players and four emergency drill participants) discusses:
  - What elements made this an effective teaching tool?
  - How could this drill have been improved?
  - When and how can you use such a drill in your teaching?

THANK YOU

References


OPTIONAL SLIDES

Manage Specific Cause

- Of vaginal bleeding
- Of unconsciousness or convulsions
- Of dangerous fever
- Of severe abdominal pain

Manage Specific Cause: Heavy Bleeding

- Stop bleeding (use oxytocics, uterine massage, bimanual compression, aortic compression, surgery)
- Give IV fluids
- Transfuse as soon as possible
- Manage cause of bleeding:
  - First 22 weeks of pregnancy: Abortion, ectopic or molar pregnancy
  - After 22 weeks or during labor but before childbirth: Placenta previa, abruptio placentae or ruptured uterus
  - After childbirth: Ruptured uterus, uterine atony, genital tract tears, retained placenta or placental fragments
- Reassess condition

Manage Specific Cause: Infection

- If facilities available, collect samples of blood, urine, pus for culture
- Give antibiotics to cover aerobic and anaerobic infections until fever-free for 48 hours (DO NOT GIVE BY MOUTH):
  - Penicillin G 2 million units OR ampicillin 2 g IV every 6 hours
  - PLUS gentamicin 5 mg/kg body weight IV every 24 hours
  - PLUS metronidazole 500 mg IV every 8 hours
- Reassess condition
Manage Specific Cause: Trauma

Prepare for surgical intervention

Transfusion

Risks of transfusion of whole blood or plasma:
- Transfusion reaction (skin rash to anaphylactic shock)
- Transmission of infectious agents (HIV, hepatitis B and C, syphilis, Chagas disease)
- Bacterial infection if blood is improperly manufactured or stored
- Risks increase with increase in volume transfused

Transfusion Risks

To minimize risk of transfusion:
- Effective donor selection
- Screening for infectious agents
- Quality assurance programs
- High-quality blood grouping, compatibility testing, component separation, storage and transport
- Appropriate use of blood and blood products

Principles of Clinical Transfusion

- Transfusion is only one element of managing woman
- Follow national guidelines for decision to transfuse, weighing:
  - Risks and benefits for individual patient
  - Expected degree of improvement
  - Indications for transfusion
  - Alternative fluids for resuscitation
  - Ability to monitor patient
Monitoring the Transfused Woman

- Monitor the woman before transfusion, at onset, 15 min. after start, every hour and at 4-hour intervals after completing the transfusion
- Monitor:
  - General appearance
  - Temperature
  - Pulse
  - Blood pressure
  - Respiration
  - Fluid balance
- Note volume infused, unique donation numbers, adverse effects

Management of Transfusion Reaction

- Stop infusion
- Continue IV fluids
- Minor adverse effects:
  - Give promethazine 10 mg by mouth
### SESSION OBJECTIVES

**By the end of this session, participants will be able to:**
- Describe best practices for diagnosis of vaginal bleeding in early pregnancy
- Describe best practices for management of vaginal bleeding during early pregnancy
- List postabortion family planning options

**NOTE:** Although MVA skills are included in the clinical component of this session, a separate module also exists on Manual Vacuum Aspiration and Counseling for Postabortion Care.

### Methods and Activities | Materials/Resources
---|---
**Group work: Case study (15 min)**
- Participants divide into groups of two to discuss case study.
- Use case study example as you proceed through PowerPoint presentation.

**Illustrated presentation/discussion: Bleeding in early pregnancy (20 min)**
- Use questions and discussion throughout presentation.
- Discuss issues that arise during presentation and questioning.
- Be sure to cover the following topical areas:
  - Causes of bleeding in early pregnancy
  - Rapid initial assessment
  - Management of threatening abortion
  - Management of inevitable abortion
  - Management of incomplete abortion
  - Management of complete abortion
  - Family planning and follow-up after abortion
  - Signs and symptoms of ectopic pregnancy
  - Management of ectopic pregnant
  - Signs and symptoms of molar pregnancy
  - Management of molar pregnancy

**Role play: Communication for women with complication (15 min)**
- Volunteers act out role play for group.
- Discuss role play and interpersonal communication skills.

**Demonstration and Skills Practice: PAC counseling and MVA (90 min)**
ROLE PLAY: COMMUNICATING ABOUT COMPLICATIONS DURING PREGNANCY

DIRECTIONS

The teacher will select three learners to perform the following roles: skilled provider, antenatal patient and patient’s husband. The three learners participating in the role play should take a few minutes to prepare for the activity by reading the background information provided below. The remaining learners, who will observe the role play, should at the same time read the background information.

The purpose of the role play is to provide an opportunity for learners to appreciate the importance of good interpersonal communication skills when providing care for a woman who experiences an obstetric complication.

PARTICIPANT ROLES

Provider: The provider is an experienced doctor who has good interpersonal communication skills.

Patient: Mrs. A., who is 12 weeks pregnant, is a 25-year-old housewife, gravida 2. She has a healthy 3-year-old daughter.

Patient’s husband: Mr. A. is also 25 years old and works as a driver in a government office.

SITUATION

Mrs. A.’s husband has brought her to the emergency department of the district hospital because she has vaginal bleeding. She has been assessed by the doctor, who has started an IV infusion to replace blood loss. Mrs. A.’s diagnosis is incomplete abortion. She has no symptoms or signs of shock; however, both she and her husband are very upset and anxious about her condition. Mrs. A.’s pregnancy was planned, and she and her husband were looking forward to completing their family with the birth of a second child. The doctor must tell Mrs. A. that it will be necessary to evacuate the remaining products of conception from her uterus, explaining the nature of the procedure and the risks involved.

FOCUS OF THE ROLE PLAY

The focus of the role play is the interpersonal interaction between the doctor and the patient and the appropriateness of the doctor’s verbal and nonverbal communication skills.

DISCUSSION QUESTIONS

The teacher should use the following questions to facilitate discussion after the role play:

1. How did the doctor explain the procedure and the associated risks to Mrs. A. and her husband?
2. What nonverbal behaviors did the doctor use to encourage interaction among her/himself, Mrs. A. and her husband?

3. How did the doctor ensure that Mrs. A. and her husband understood what s/he had told them?
ROLE PLAY: COMMUNICATING ABOUT COMPLICATIONS DURING PREGNANCY—ANSWER KEY

DISCUSSION QUESTIONS

1. How did the doctor explain the procedure and the associated risks to Mrs. A. and her husband?

2. What nonverbal behaviors did the doctor use to encourage interaction among her/himself, Mrs. A. and her husband?

3. How did the doctor ensure that Mrs. A. and her husband understood what s/he had told them?

ANSWERS

The following answers should be used by the teacher to guide discussion after the role play:

1. The doctor should have spoken in a calm and reassuring manner, using terminology that Mrs. A. and her husband would easily understand.

2. Supportive nonverbal behaviors, such as nodding or smiling, should have been used to let Mrs. A. and her husband know that they were being listened to and understood.

3. To ensure that Mrs. A. and her husband understood the explanation provided, the doctor should have asked Mrs. A. and/or her husband to repeat the key points, or asked questions whose answers would allow them to clearly demonstrate their understanding of key points.
CASE STUDY: VAGINAL BLEEDING DURING EARLY PREGNANCY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical-decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. A. is 28 years old. She is 12 weeks pregnant when she presents at the health center complaining of light vaginal bleeding. This is Mrs. A.’s first pregnancy. It is a planned pregnancy, and she has been well until now.

ASSESSMENT

(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What causes of bleeding do you need to rule out?

DIAGNOSIS

(Identification of problems/needs)

You have completed your assessment of Mrs. A., and your main findings include the following:

- Mrs. A.’s temperature is 36.8º C, her pulse rate is 82 beats/minute and her blood pressure is 110/70 mm Hg.
- She has no skin pallor or sweating.
- She has slight lower abdominal cramping/pain and light vaginal bleeding.
- Her uterine size is equal to dates, she has no uterine tenderness and no cervical motion tenderness, and the cervix is closed.

4. Based on these findings, what is Mrs. A.’s diagnosis, and why?

CARE PROVISION

(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?
EVALUATION

- Mrs. A. returns to the health center in 3 days.
- She reports that the bleeding became heavier last night, and that since then she has been having cramping and lower abdominal pain.
- She has not passed any products of conception, her uterus corresponds to dates and her cervix is now dilated. She has no signs or symptoms of shock.
- Mrs. A. is very upset about the possibility of miscarrying.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
CASE STUDY: VAGINAL BLEEDING DURING EARLY PREGNANCY—
ANSWER KEY

CASE STUDY

Mrs. A. is 28 years old. She is 12 weeks pregnant when she presents at the health center complaining of light vaginal bleeding. This is Mrs. A.’s first pregnancy. It is a planned pregnancy, and she has been well until now.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?

- Mrs. A. should be greeted respectfully and with kindness.
- She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
- A rapid assessment should be done to check for the following signs to determine if she is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweatiness or cold, clammy skin; rapid breathing; confusion.

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

- An abdominal examination should be done to check for tenderness and to determine the size, consistency and position of the uterus. A pelvic examination should be done to check for tenderness and to determine whether the cervix is closed, whether there is any tissue protruding from the cervix and the amount of bleeding.

3. What causes of bleeding do you need to rule out?

- Abortion (threatened, inevitable, complete, incomplete)
- Ectopic pregnancy
- Molar pregnancy

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. A., and your main findings include the following:

- Mrs. A.’s temperature is 36.8º C, her pulse rate is 82 beats/minute and her blood pressure is 110/70 mm Hg.
- She has no skin pallor or sweating.
- She has slight lower abdominal cramping/pain and light vaginal bleeding.
Her uterine size is equal to dates, she has no uterine tenderness and no cervical motion tenderness, and the cervix is closed.

4. Based on these findings, what is Mrs. A.’s diagnosis, and why?
- Mrs. A.’s symptoms and signs (e.g., light bleeding, closed cervix, uterus corresponds to dates) are consistent with threatened abortion.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?
- No medical treatment is necessary at this point.
- Mrs. A. should be advised to avoid strenuous activity and sexual intercourse.
- She should be given emotional support and reassurance. Counseling about rest, nutrition and danger signs in pregnancy should be provided, with particular emphasis on vaginal bleeding.
- If bleeding stops, Mrs. A. should be followed up at the antenatal clinic.
- If bleeding continues, she should be advised to return for further assessment.

EVALUATION

- Mrs. A. returns to the health center in 3 days.
- She reports that the bleeding became heavier last night, and that since then she has been having cramping and lower abdominal pain.
- She has not passed any products of conception, her uterus corresponds to dates and her cervix is now dilated. She has no signs or symptoms of shock.
- Mrs. A. is very upset about the possibility of miscarrying.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
- Mrs. A.’s signs and symptoms are now consistent with those of inevitable abortion.
- She should be counseled about the potential outcome for her pregnancy and given emotional support and reassurance.
- Because she is less than 16 weeks pregnant, arrangements should be made for evacuation of the uterus, using manual vacuum aspiration.
- If evacuation is not immediately possible, ergometrine 0.2 mg IM should be given and, if necessary, repeated after 15 minutes; or misoprostol 400 µg should be given by mouth and, if necessary, repeated once after 4 hours.
- Arrangements should then be made for evacuation of the uterus as soon as possible.
- Provide emotional support and reassurance to Mrs. A., explain what to expect, listen to her carefully and respond to any fears or concerns she may have.
After the evacuation procedure, Mrs. A. should be reassured about the chances of a subsequent successful pregnancy and encouraged to delay the next pregnancy until she has completely recovered.

Counseling about suitable family planning methods should be provided.

Mrs. A. should be advised to return for immediate attention if she has:

- Prolonged cramping (more than a few days)
- Prolonged bleeding (more than 2 weeks)
- Severe or increased pain
- Fever, chills or malaise
- Fainting

Identify any other reproductive health services (e.g., tetanus prophylaxis or tetanus booster, treatment of STIs, cervical cancer screening) that Mrs. A. may need.
# SKILLS PRACTICE SESSION: POSTABORTION CARE (MANUAL VACUUM ASPIRATION [MVA]) AND POSTABORTION FAMILY PLANNING COUNSELING

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
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</table>
| The purpose of this activity is to enable learners to practice manual vacuum aspiration, achieve competency in the skills required and develop skills in postabortion family planning counseling. | This activity should be conducted in a simulated setting, using the appropriate models. | The following equipment or representations thereof:  
- Pelvic model  
- High-level disinfected or sterile surgical gloves  
- Personal protective barriers  
- MVA syringes and cannula  
- Vaginal speculum  
- Single-toothed tenaculum or vulsellum forceps |
| Learners should review Learning Guide Postabortion Family Planning Counseling and Postpartum Care (MVA) before beginning the activity. | |
| The facilitator/teacher should demonstrate the preliminary steps (medical evaluation, explaining the procedure, pelvic examination), followed by the steps in the MVA procedure. Under the guidance of the facilitator/teacher, learners should then work in pairs to practice the steps/tasks and observe each other’s performance, using Learning Guide Postabortion Care (MVA). | Learning Guide: Postabortion Care (MVA)  
Learning Guide: Postabortion Family Planning Counseling  
Learning Guide: Postabortion Care (MVA) |
| The facilitator/teacher should then demonstrate the steps/tasks in providing postabortion family planning counseling. | |
| Under the guidance teacher, learners should then work of the facilitator/ in groups of three to practice the steps/tasks and observe each other’s performance; one learner should take the role of the postabortion woman, the second should practice counseling skills, and the third should observe performance using Learning Guide Postabortion Care Family Planning Counseling. Learners should then reverse roles until each has had an opportunity to practice counseling skills. | Learning Guide: Postabortion Family Planning Counseling |
**PURPOSE**
Learners should be able to perform the steps/tasks in the relevant Learning Guide before skill competency is assessed by the teacher in the simulated setting, using the relevant checklists.

Finally, following supervised practice at a clinical site, the facilitator/teacher should assess the skill competency of each learner, using the relevant checklists.\(^1\)

**INSTRUCTIONS**

**RESOURCES**
- Checklist: Postabortion Care (MVA)
- Checklist: Postabortion Family Planning Counseling

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\(^1\) If patients are not available at clinical sites for learners to practice postabortion care in relation to obstetric emergencies, the skills should be taught, practiced and assessed in a simulated setting.
CLINICAL SIMULATION: MANAGEMENT OF VAGINAL BLEEDING DURING EARLY PREGNANCY

Purpose: The purpose of this activity is to provide a simulated experience for learners to practice problem-solving and decision-making skills in the management of vaginal bleeding in early pregnancy, with emphasis on thinking quickly and reacting (intervening) rapidly.

Instructions: The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a hospital, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One learner should play the role of patient and a second learner the role of skilled provider. Other learners may be called on to assist the provider.
- The facilitator/teacher will give the learner playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.
- The learner will be expected to think quickly and react (intervene) rapidly when the facilitator/teacher provides information and asks questions. Key reactions/responses expected from the learner are provided in the right-hand column of the chart below.
- Procedures such as starting an IV and bimanual examination should be role-played, using the appropriate equipment.
- Initially, the facilitator/teacher and learner will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the learner’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

Resources: Learning Guides for Postabortion Care and Postabortion Care Family Planning Counseling, childbirth simulator, sphygmomanometer, stethoscope, equipment for starting an IV infusion, syringes and vials, bucket for waste disposal, high-level disinfected or sterile surgical gloves, antiseptic solution.
<table>
<thead>
<tr>
<th>SCENARIO 1</th>
<th>KEY REACTIONS/RESPONSES</th>
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<tbody>
<tr>
<td>(Information provided and questions asked by the facilitator/teacher)</td>
<td>(Expected from learner)</td>
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</table>
| 1. Mrs. A. is 20 years old. This is her first pregnancy. Her family brings her into the health center. Mrs. A. is able to walk with the support of her sister and husband. She reports that she is 14 or 15 weeks pregnant and that she has had some cramping and spotting for several days. However, she has had heavy bleeding and cramping for the past 6–8 hours. She has not attended an antenatal clinic nor is she being treated for any illnesses. **What is your first concern?**  
- States that first concern is to determine whether or not Mrs. A. is in shock  
- Makes a rapid evaluation of her general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and skin temperature  
- Explains to Mrs. A. (and her family) what is going to be done, listens to them and responds attentively to their questions and concerns  
- **What will you do first?**  
- States that first concern is to determine whether or not Mrs. A. is in shock  
- Makes a rapid evaluation of her general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and skin temperature  
- Explains to Mrs. A. (and her family) what is going to be done, listens to them and responds attentively to their questions and concerns |
| States that Mrs. A. is not in shock  
- Starts an IV infusion of normal saline or Ringer’s lactate  
- Asks Mrs. A. if anything happened to her or if anyone did anything to her which may have caused the bleeding  
- Asks how long it takes to soak a pad  
- Asks if Mrs. A. has passed any tissue  
- Asks if she has fainted |
| 2. On examination, you find that Mrs. A.’s blood pressure is 100/60 mm Hg, pulse 100 beats/minute, respiration rate 24 breaths/minute. She is conscious. Her skin is not cold or clammy. You notice bright red blood soaking through her dress. **Is Mrs. A. in shock?**  
- Palpates Mrs. A.’s abdomen for uterine size, tenderness and consistency; checks for tender adnexal mass to rule out ectopic pregnancy; checks for large, boggy uterus to rule out molar pregnancy  
- Does a bimanual examination to rule out inevitable or incomplete abortion  
- Takes Mrs. A.’s temperature to rule out sepsis  
- States that Mrs. A. has an incomplete abortion |
| States that Mrs. A. is not in shock  
- Starts an IV infusion of normal saline or Ringer’s lactate  
- Asks Mrs. A. if anything happened to her or if anyone did anything to her which may have caused the bleeding  
- Asks how long it takes to soak a pad  
- Asks if Mrs. A. has passed any tissue  
- Asks if she has fainted |
| 3. Mrs. A. was well until she started bleeding. You can tell from her responses that she wanted this pregnancy. You see no signs of physical violence. She soaks a pad every 4–5 minutes. She has not fainted but she “feels dizzy.” She has passed some clots and thinks she may have passed tissue. **What will you do next and why?**  
- Palpates Mrs. A.’s abdomen for uterine size, tenderness and consistency; checks for tender adnexal mass to rule out ectopic pregnancy; checks for large, boggy uterus to rule out molar pregnancy  
- Does a bimanual examination to rule out inevitable or incomplete abortion  
- Takes Mrs. A.’s temperature to rule out sepsis  
- States that Mrs. A. has an incomplete abortion |
| States that Mrs. A. is not in shock  
- Starts an IV infusion of normal saline or Ringer’s lactate  
- Asks Mrs. A. if anything happened to her or if anyone did anything to her which may have caused the bleeding  
- Asks how long it takes to soak a pad  
- Asks if Mrs. A. has passed any tissue  
- Asks if she has fainted |
| 4. On examination, you find that the uterus is firm, slightly tender and palpable just at the level of the symphysis pubis; there are no adnexal masses. Bimanual examination reveals that the cervix is approx 1–2 cm dilated, uterine size is less than 12 weeks, and no tissue is palpable at the cervix. There is no cervical motion tenderness. **What is your working diagnosis?**  
- States that Mrs. A. has an incomplete abortion |
| States that Mrs. A. is not in shock  
- Starts an IV infusion of normal saline or Ringer’s lactate  
- Asks Mrs. A. if anything happened to her or if anyone did anything to her which may have caused the bleeding  
- Asks how long it takes to soak a pad  
- Asks if Mrs. A. has passed any tissue  
- Asks if she has fainted |

**Discussion Question 1:** Why did you rule out ectopic pregnancy?  
**Expected Responses:** Bleeding is heavier than for ectopic; no adnexal masses were palpable abdominally or vaginally; no cervical motion tenderness; cervix is dilated; no history of fainting
<table>
<thead>
<tr>
<th>SCENARIO 1 (continuation)</th>
<th>KEY REACTIONS/RESPONSES (continuation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. (continued)</td>
<td></td>
</tr>
</tbody>
</table>
| • What will you do now?  | • Explains findings to Mrs. A. (and her family)  
|                         | • Prepares Mrs. A. for MVA              |
| 5. The treatment room is occupied at the moment because another patient with incomplete abortion is undergoing an MVA. The room will be available in 30 minutes. | • Explains the situation to Mrs. A. (and her family)  
|                         | • Keeps the IV running                 |
|                         | • Gives ergometrine 0.2 mg IM OR misoprostol 400 μg orally  
|                         | • Continues to monitor blood loss, pulse and blood pressure |
| • What will you do now?  |                                       |
| 6. Fifteen minutes have passed since ergometrine was given, but Mrs. A. is still soaking one pad every 5 minutes. Her blood pressure is 98/60 mm Hg and her pulse 104 beats/minute. | • Repeats the ergometrine 0.2 mg IM  
|                         | • Continues IV infusion                 |
|                         | • Continues to monitor blood loss, blood pressure and pulse  
|                         | • Takes blood for typing and cross-matching so that it is available if needed |
| • What will you do now?  |                                       |
| 7. Bleeding slowed after the second dose of ergometrine. MVA was performed 30 minutes later and complete evacuation of the products of conception has been assured. | • Monitors Mrs. A.’s vital signs and blood loss  
|                         | • Ensures that Mrs. A. is clean, warm and comfortable  
|                         | • Encourages her to eat and drink as she wishes |
| • What will you do now?  |                                       |
| 8. After 6 hours, Mrs. A.’s vital signs are stable and there is almost no blood loss. She insists on going home. | • Talks to Mrs. A. about whether or not she wants to get pregnant and when; provides family planning counseling and a family planning method, if necessary  
| • What will you do before she goes home? | • Provides reassurance about the chances for a subsequent successful pregnancy  
|                         | • Advises Mrs. A. to seek medical attention immediately if she develops prolonged cramping, prolonged bleeding, bleeding more than normal menstrual bleeding, severe or increased pain, fever, chills or malaise, foul-smelling discharge, fainting  
|                         | • Talks to her and her husband about safe sex  
|                         | • Asks about her tetanus immunization status and provides immunization if needed |
LEARNING GUIDE: POSTABORTION CARE CLINICAL SKILLS
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task or skill not performed by learner during evaluation by facilitator/teacher

<table>
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<tr>
<th>INITIAL ASSESSMENT</th>
<th>CASES</th>
</tr>
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<tbody>
<tr>
<td>1. Assess patient for shock and other life-threatening conditions.</td>
<td></td>
</tr>
<tr>
<td>2. If any complications are identified, stabilize patient and transfer if necessary.</td>
<td></td>
</tr>
<tr>
<td>3. Treat the patient respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>4. Take a reproductive health history.</td>
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<td>5. Perform indicated laboratory tests.</td>
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<td>2. Tell patient she may feel discomfort during some of the steps and that you will tell her in advance.</td>
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<td>3. Check that patient has thoroughly washed her perineal area and has recently emptied her bladder.</td>
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<td>4. Determine that required equipment and sterile or high-level disinfected instruments and cannulae are present.</td>
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<td>5. Check MVA syringe and charge it (establishes vacuum).</td>
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<td>6. Put on apron, wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
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<td>7. Put new examination or sterile or high-level disinfected gloves on both hands.</td>
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<td>8. Arrange sterile or high-level disinfected instruments on sterile tray or in high-level disinfected container.</td>
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<td>2. Perform bimanual pelvic examination to confirm uterine size, position and degree of cervical dilation.</td>
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<td>3. Insert the speculum.</td>
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<td>4. Check the vagina and cervix for tissue fragments and remove them.</td>
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<td>5. Apply antiseptic solution two times to the cervix (particularly the os) and vagina.</td>
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<td>6. Put tenaculum or vulsellum forceps on posterior lip of cervix.</td>
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<tr>
<td>7. Correctly administer paracervical block (if necessary):</td>
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<tr>
<td>• Fill a 10 ml syringe with local anesthetic (1% without epinephrine).</td>
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</tr>
<tr>
<td>• With tenaculum or vulsellum forceps on the cervix, use slight traction and movement to help identify the area between the smooth cervical epithelium and the vaginal tissue.</td>
<td></td>
</tr>
<tr>
<td>• Insert the needle just under the epithelium and aspirate by drawing the plunger back slightly to make certain the needle is not penetrating a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>• Inject about 2 ml of a 1% local anesthetic just under the epithelium, not deeper than 2–3 mm at 3, 5, 7 and 9 o’clock.</td>
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</tr>
<tr>
<td>• Wait a minimum of 2–4 minutes for the anesthetic to have maximum effect.</td>
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<tr>
<td>8. Gently apply traction on the cervix to straighten the cervical canal and dilate the cervix (if needed).</td>
<td></td>
</tr>
<tr>
<td>9. While holding the cervix steady, insert the cannula gently through the cervix into the uterine cavity until it just touches the fundus (not &gt;10 cm). Then withdraw the cannula slightly away from the fundus.</td>
<td></td>
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<tr>
<td>10. Attach the prepared syringe to the cannula by holding the end of the cannula in one hand and the syringe in the other. Make sure the cannula does not move forward as the syringe is attached.</td>
<td></td>
</tr>
<tr>
<td>11. Evacuate contents of the uterus by rotating the cannula and syringe from 10 to 12 o’clock and moving the cannula gently and slowly back and forth within the uterine cavity.</td>
<td></td>
</tr>
<tr>
<td>12. If the syringe becomes half full before the procedure is complete, close the valves and detach the cannula from the syringe. Remove only the syringe, leaving the cannula in place:</td>
<td></td>
</tr>
<tr>
<td>• Push the plunger to empty POC into the strainer after measuring volume.</td>
<td></td>
</tr>
<tr>
<td>• Recharge syringe, attach to cannula and pinch valve(s).</td>
<td></td>
</tr>
<tr>
<td>13. Check for signs of completion (red or pink foam, no more tissue in cannula or “gritty” sensation.) Withdraw cannula and MVA syringe gently.</td>
<td></td>
</tr>
<tr>
<td>14. Remove cannula from MVA syringe and push the plunger to empty contents into strainer.</td>
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<td>15. Rinse the POC with water or saline.</td>
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<td>16. Inspect tissue removed from uterus and ensure it is POC.</td>
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<tr>
<td>17. When the signs of a complete procedure are present, remove forceps or tenaculum and speculum.</td>
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<tr>
<td>18. Perform bimanual examination to check size and firmness of uterus.</td>
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<td>20. If uterus is still soft or bleeding persists, repeat steps 4–11.</td>
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**POST-MVA TASKS**

1. Let patient lie on her side in a comfortable position.
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<td>2. Before removing gloves, dispose of waste materials and soak instruments and MVA items in 0.5% chlorine solution for 10 minutes for decontamination.</td>
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</table>
| 3. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning inside out:  
  ● If disposing of gloves, place in leak-proof container or plastic bag.  
  ● If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 4. Attach used cannula to MVA syringe and flush both with 0.5% chlorine solution. Detach cannula and soak them in chlorine solution for 10 min. |       |
| 5. Empty POC into utility sink, flushable latrine or toilet or container with tight-fitting lid. |       |
| 6. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
| 7. Check for amount of bleeding and if cramping has decreased, at least once before discharge. |       |
| 8. Instruct patient regarding postabortion care (e.g., when patient should return to clinic). |       |
| 9. Discuss reproductive goals and, as appropriate, provide family planning. |       |
| 10. Tell her when to return if follow-up is needed and that she can return anytime she has concerns. |       |
LEARNING GUIDE: POSTABORTION FAMILY PLANNING
COUNSELING SKILLS
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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<td>1. Greet woman respectfully and with kindness.</td>
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<td>2. Assess whether counseling is appropriate at this time (if not, arrange for her to be counseled at another time).</td>
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<tr>
<td>3. Assure necessary privacy.</td>
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</tr>
<tr>
<td>4. Use effective interpersonal communication (two-way communication, active listening, appropriate non-verbal communication). Encourage patient to ask questions.</td>
<td></td>
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<tr>
<td>5. Obtain biographic information (name, address, etc.).</td>
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<td>6. Ask if she was using contraception before she became pregnant. If she was, find out if she:</td>
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<td>* Used the method correctly</td>
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<td>8. Explore any attitudes or religious beliefs that either favor or rule out one or more methods.</td>
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<td>4. Discuss what to do if the patient experiences any side effects or problems.</td>
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CHECKLIST: POSTABORTION CARE CLINICAL SKILLS
(To be used by the Facilitator/Teacher at the end of the module)

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<td>6. Correctly administer paracervical block (if necessary).</td>
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<td>7. Dilate the cervix (if needed).</td>
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### Skill/Activity Performed Satisfactorily

#### Checklist for Postabortion Care

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<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.</td>
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<td>3. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
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CHECKLIST: POSTABORTION FAMILY PLANNING
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**PATIENT SCREENING**

1. Screen patient carefully to make sure there is no medical condition that would be a problem (complete Patient Screening Checklist).
## Checklist for Postabortion Family Planning

**Counseling Skills**

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**Skill/Activity Performed Satisfactorily**
KNOWLEDGE ASSESSMENT:
MANAGEMENT OF BLEEDING IN EARLY PREGNANCY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Vaginal bleeding during the first 22 weeks of pregnancy could be caused by:
   a. An incomplete abortion/miscarriage
   b. An ectopic pregnancy
   c. A molar pregnancy
   d. a) and b)
   e. All of the above

2. In the case of an incomplete abortion less than 16 weeks, when immediate evacuation of the uterus is not possible, you should:
   a. Give ergometrine 0.2 mg. IM or misoprostol 400 mcg by mouth and arrange for evacuation
   b. Perform an ultrasound
   c. Observe for at least 1 hour before giving medication
   d. All of the above

3. Family planning methods that can be provided immediately postabortion include:
   a. Copper T-380a IUD
   b. Progestin only methods (pills, Norplant, Depo-Provera)
   c. Combined oral contraceptives or voluntary tubal ligation
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Signs and symptoms of ruptured ectopic pregnancy include shock, acute abdominal pain, abdominal distension and pallor. _____

5. If the diagnosis of molar pregnancy is certain, the uterus should be evacuated. _____

6. Manual vacuum aspiration is usually safer, less traumatic and less painful than dilatation and curettage (D&C). _____

7. Differential diagnosis of bleeding in early pregnancy can often be made clinically, saving time and expense. _____
KNOWLEDGE ASSESSMENT: MANAGEMENT OF BLEEDING IN EARLY PREGNANCY—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Vaginal bleeding during the first 22 weeks of pregnancy could be caused by:
   a. An abortion/miscarriage
   b. An ectopic pregnancy
   c. A molar pregnancy
   d. a) and b)
   e. All of the above

2. In the case of an incomplete abortion less than 16 weeks, when immediate evacuation of the uterus is not possible, you should:
   a. Give ergometrine 0.2 mg, IM or misoprostol 400 mcg by mouth and arrange for evacuation
   b. Perform an ultrasound
   c. Observe for at least 1 hour before giving medication
   d. All of the above

3. Family planning methods that can be provided immediately after an abortion include:
   a. Copper T-380a IUD
   b. Progestin only methods (pills, Norplant, Depo-Provera)
   c. Combined oral contraceptives or voluntary tubal ligation
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Signs and symptoms of ruptured ectopic pregnancy include shock, acute abdominal pain, abdominal distension and pallor. TRUE

5. If the diagnosis of molar pregnancy is certain, the uterus should be evacuated. TRUE

6. Manual vacuum aspiration is usually safer, less traumatic and less painful than dilatation and curettage (D&C). TRUE

7. Differential diagnosis of bleeding in early pregnancy can often be made clinically, saving time and expense. TRUE
Session Objectives

- To describe best practices for diagnosis of vaginal bleeding in early pregnancy
- To describe best practices for management of vaginal bleeding during early pregnancy
- To list postabortion family planning options

Case Study

Have everyone read Case Study 1 and discuss in group

Definition: What is bleeding in early pregnancy?

Vaginal bleeding that occurs during the first 22 weeks of pregnancy
Rapid Initial Assessment

- Rapid evaluation of woman's general condition including vital signs (pulse, blood pressure, respiration, temperature)
- If shock suspected, immediately begin treatment
- If woman is in shock, consider ruptured ectopic pregnancy
- Start an IV infusion and infuse IV fluids

What May Cause Bleeding . . .

. . . in early pregnancy?

Bleeding in Early Pregnancy: Diagnosis of Abortion

- Threatened abortion
- Complete abortion
- Inevitable abortion
- Incomplete abortion
- Ectopic pregnancy
- Molar pregnancy

Management of Threatened Abortion

- Medical treatment usually not necessary.
- Advise woman to avoid strenuous activity and sexual intercourse; bed rest not necessary.
- If bleeding stops, follow up in antenatal clinic. Reassess if bleeding recurs.
- If bleeding persists, assess for fetal viability (pregnancy test/ultrasound) or ectopic pregnancy (ultrasound). Persistent bleeding, esp. in the presence of uterus larger than expected, may indicate twins or molar pregnancy.

Do not give medications such as hormones (e.g., estrogens or prostaglandins) or tocolytic agents (e.g., salbutamol or indomethacin) as they will not prevent miscarriage.
Management of Inevitable Abortion

- If pregnancy is <16 weeks, plan for evacuation of uterine contents. If evacuation not immediately possible:
  - Give ergometrine 0.2 mg IM (repeated after 15 min. if necessary) OR misoprostol 400 mcg by mouth (repeated once after 4 hours if necessary);
  - Arrange for evacuation as soon as possible.
- Ensure follow-up after treatment.

Management of Inevitable Abortion (cont.)

- If pregnancy is ≥ 16 weeks:
  - Await spontaneous expulsion of products of conception and then evacuate uterus to remove any remaining products of conception
  - If necessary, infuse oxytocin 40 units in 1 L IV fluids at 40 drops/min to help expulsion of products of conception

Management of Incomplete Abortion: < 16 Weeks

- If bleeding light to moderate, use fingers or ring (or sponge) forceps to remove products of conception protruding through cervix.
- If bleeding heavy, evacuate uterus:
  - Manual vacuum aspiration (MVA) is preferred method.
  - Sharp curettage should be done only if MVA not available
  - If evacuation not immediately possible, give ergometrine 0.2 mg IM (repeated after 15 min. if necessary) OR misoprostol 400 mcg orally (repeated once after 4 hours if necessary)
- Ensure follow-up of the woman after treatment.

Management of Incomplete Abortion: ≥ 16 Weeks

- Infuse oxytocin 40 units in 1 L IV fluids at 40 drops/min. until expulsion of POC occurs
- Evacuate any remaining products of conception from uterus by dilatation and curettage
- If necessary, give misoprostol 200 mcg vaginally every 4 hours until expulsion, but do not administer more than 800 mcg
- Ensure follow-up of the woman after treatment
Management of Complete Abortion

- Evacuation of the uterus usually not necessary
- Observe for heavy bleeding
- Ensure follow-up of woman after treatment

Follow-Up after Abortion

- Tell woman that spontaneous abortion is common.
- Reassure woman that chances for subsequent successful pregnancy are good unless there has been sepsis or unless cause of abortion is identified that may have an adverse effect on future pregnancies (rare).

Follow-Up after Spontaneous Abortion

- Encourage her to delay next pregnancy until completely recovered.
- Provide counseling for women who have had unsafe abortion. If pregnancy not desired, certain FP methods can be started immediately (within 7 days) if:
  - There are no severe complications requiring further treatment
  - Woman receives adequate counseling and help in selecting most appropriate FP method

Question ??

What methods of family planning can be used postabortion and how long after the abortion do you need to wait to begin each method?
Family Planning Methods after Postabortion Care

<table>
<thead>
<tr>
<th>Type of FP Method</th>
<th>Advise to Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormonal</td>
<td>Immediately</td>
</tr>
<tr>
<td>Condoms</td>
<td>Immediately</td>
</tr>
<tr>
<td>IUD</td>
<td>Immediately</td>
</tr>
<tr>
<td>Or Voluntary Tubal Ligation</td>
<td>If infection present or suspected, delay insertion/surgery until cleared If Hb &lt; 7 g/dL, delay until anemia improves Provide interim method (e.g., condom)</td>
</tr>
</tbody>
</table>

Ectopic Pregnancy: Clinical Diagnosis

- Symptoms:
  - Pain: 90–100% of patients
  - Amenorrhea/abnormal menses: 75–95%
  - Irregular bleeding: 50–80%
  - Pregnancy symptoms: 10–25%

Ectopic Pregnancy: Clinical Diagnosis (cont.)

- Signs:
  - Afebrile
  - Abdominal tenderness: 80–95%
  - Rebound tenderness: 45%
  - Palpable mass: 50% (often opposite side)
  - Normal sized uterus: 71%
  - Use combination testing to increase sensitivity and specificity

Ectopic Pregnancy

- Pregnancy that is outside the uterine cavity
- Can be in the tube, ovary, abdomen or other locations
- Treated surgically by removal of the pregnancy or tube
- Also treated medically, although not available in developing countries
- If ruptures, can lead to hemorrhage and death

Signs and Symptoms of Unruptured Ectopic Pregnancy

- Symptoms of early pregnancy:
  - Irregular spotting or bleeding
  - Nausea
  - Swelling of breasts
  - Bluish discoloration of vagina and cervix
  - Softening of cervix
  - Slight uterine enlargement
  - Increased urinary frequency
- Abdominal and pelvic pain

Signs and Symptoms of Ruptured Ectopic Pregnancy

- Collapse and weakness
- Fast, weak pulse (≥ 110/minute)
- Hypotension
- Hypovolemia
- Acute abdominal and pelvic pain
- Abdominal distension
- Rebound tenderness
- Pallor

Differential Diagnosis for Ectopic Pregnancy

- Threatened abortion
- Acute or chronic PID
- Ovarian cysts
  - (torsion or rupture)
- Acute appendicitis
- Remember: A ruptured ectopic pregnancy could be life-threatening!

Management of Ectopic Pregnancy

- Cross-match blood
- Arrange for immediate laparotomy
- After surgery, prior to discharge, counsel on prognosis for fertility, and family planning needs
- Provide iron supplements for at least 6 months
Signs and Symptoms of Molar Pregnancy

- Heavy bleeding
- Dilated cervix
- Uterus larger than dates
- Uterus softer than normal
- Partial expulsion of products of conception that resemble grapes
- Sometimes: nausea/vomiting, cramping, early onset pre-eclampsia

Molar Pregnancy

- If diagnosis of molar pregnancy is certain, evacuate the uterus:
  - Use vacuum aspiration:
    - Risk of perforation using a metal curette is high
    - Have three syringes cocked and ready for use as uterine contents are copious and must be evacuated rapidly
  - Infuse oxytocin 20 units in 1 L IV (NS or RL) at 60 drops/minute to prevent hemorrhage once evacuation is under way
- Subsequent management:
  - Use contraception for at least 1 year
  - Follow up every 8 weeks for at least 1 year to monitor for trophoblastic disease or choriocarcinoma

Summary

- Vaginal bleeding in early pregnancy could be caused by:
  - Threatened abortion
  - Incomplete abortion
  - Complete abortion
  - Ectopic pregnancy
  - Molar pregnancy
- Diagnosis can often be made clinically, saving time and expense

References

SUPPLEMENTARY MODULE 16.1: BEST PRACTICES IN POSTABORTION CARE—SESSION PLAN

MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Postabortion Care (PAC)</td>
<td>120 min</td>
</tr>
</tbody>
</table>

SESSION OBJECTIVES

*NOTE: Much content of this session is duplicative of content in the session on Best Practices in Management of Early Bleeding in Pregnancy. Clinical MVA skills are the same. It is suggested that the facilitator use one session or the other rather than both, depending on the individual learning situation.*

*By the end of this session, participants will be able to:*
- Describe the initial assessment of a woman bleeding in early pregnancy
- Define the stages of abortion
- Describe pain management in postabortion care
- Discuss postabortion family planning
- Describe the management of problems that may occur with Manual Vacuum Aspiration
- Competently perform MVA on a model

<table>
<thead>
<tr>
<th>Methods and Activities</th>
<th>Materials/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illustrated presentation/discussion: Best practices in postabortion care (20 min)</td>
<td>Boxlight projector</td>
</tr>
<tr>
<td>Use questions and discussion throughout presentation as indicated on slides.</td>
<td>PowerPoint presentation</td>
</tr>
<tr>
<td>Cover the following:</td>
<td>OR</td>
</tr>
<tr>
<td>- Objectives of session</td>
<td>Overhead projector with transparencies (Handouts of presentations if no electricity)</td>
</tr>
<tr>
<td>- The initial assessment of a woman bleeding in early pregnancy</td>
<td>Copies of Learning Guides and Checklists for Manual Vacuum Aspiration</td>
</tr>
<tr>
<td>- The stages of abortion</td>
<td>ZOE model</td>
</tr>
<tr>
<td>- Pain management in postabortion care</td>
<td>MVA equipment (syringe, cannula)</td>
</tr>
<tr>
<td>- Family planning for the postabortion care client</td>
<td>Speculum</td>
</tr>
<tr>
<td>- The management of problems that may occur with Manual Vacuum Aspiration</td>
<td>Sponge forceps</td>
</tr>
</tbody>
</table>

Skills demonstration and practice: Manual vacuum aspiration (100 min)

- Demonstration: (20 min)
- Practice: (80 min)

Divide participants into three groups to practice each skill with a model. One participant practices while others in group follow with learning guide. Participants rotate within each small group until all have practiced. They then rotate to another skill station.

- Tenaculum
- High-level disinfected or surgical gloves
- Personal protective barriers
- 0.5% chlorine solution and receptacle for decontamination
- Leak-proof container or plastic bag
## SKILLS PRACTICE SESSION: POSTABORTION CARE

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice manual vacuum aspiration. | This activity should be conducted in a simulated setting. | • Childbirth simulator with baby and placenta  
• ZOE model  
• MVA equipment (syringe, cannula)  
• Speculum  
• Sponge forceps  
• Tenaculum  
• High-level disinfected or surgical gloves  
• Personal protective barriers  
• 0.5% chlorine solution and receptacle for decontamination  
• Leak-proof container or plastic bag |
| Learners should review Learning Guide for Manual Vacuum Aspiration before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. The facilitator/teacher should show each piece of equipment and explain its use. Show anatomical landmarks. The facilitator/teacher must explain each step of procedure and any cautions associated with each step Under the guidance of the facilitator/teacher, learners should then work in pairs and practice the steps/tasks in each individual Learning Guide and observe each other’s performance; while one learner performs the skill, the second learner should use the relevant section of each Learning Guide to observe performance. Learners should then reverse roles. | Learning Guide: Manual Vacuum Aspiration  
Learning Guide: Manual Vacuum Aspiration  
Checklist: Manual Vacuum Aspiration |
| Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting. | | |
**LEARNING GUIDE: POSTABORTION CARE CLINICAL SKILLS**  
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines  
**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines  
**Not Observed:** Step or task or skill not performed by learner during evaluation by facilitator/teacher

<table>
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<tr>
<th>INITIAL ASSESSMENT</th>
<th>CASES</th>
</tr>
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<tbody>
<tr>
<td>1. Assess patient for shock and other life-threatening conditions.</td>
<td></td>
</tr>
<tr>
<td>2. If any complications are identified, stabilize patient and transfer if necessary.</td>
<td></td>
</tr>
<tr>
<td>3. Treat the patient respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>4. Take a reproductive health history.</td>
<td></td>
</tr>
<tr>
<td>5. Perform indicated laboratory tests.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GETTING READY</th>
<th>CASES</th>
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<tbody>
<tr>
<td>1. Tell the patient what is going to be done and encourage her to ask questions.</td>
<td></td>
</tr>
<tr>
<td>2. Tell patient she may feel discomfort during some of the steps and that you will tell her in advance.</td>
<td></td>
</tr>
<tr>
<td>3. Check that patient has thoroughly washed her perineal area and has recently emptied her bladder.</td>
<td></td>
</tr>
<tr>
<td>4. Determine that required equipment and sterile or high-level disinfected instruments and cannulae are present.</td>
<td></td>
</tr>
<tr>
<td>5. Check MVA syringe and charge it (establishes vacuum).</td>
<td></td>
</tr>
<tr>
<td>6. Put on apron, wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>7. Put new examination or sterile or high-level disinfected gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>8. Arrange sterile or high-level disinfected instruments on sterile tray or in high-level disinfected container.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MVA PROCEDURE</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain each step of the procedure prior to performing it.</td>
<td></td>
</tr>
<tr>
<td>2. Perform bimanual pelvic examination to confirm uterine size, position and degree of cervical dilation.</td>
<td></td>
</tr>
<tr>
<td>3. Insert the speculum.</td>
<td></td>
</tr>
<tr>
<td>4. Check the vagina and cervix for tissue fragments and remove them.</td>
<td></td>
</tr>
<tr>
<td>5. Apply antiseptic solution two times to the cervix (particularly the os) and vagina.</td>
<td></td>
</tr>
<tr>
<td>6. Put tenaculum or vulsellum forceps on posterior lip of cervix.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>7. Correctly administer paracervical block (if necessary):</td>
<td></td>
</tr>
<tr>
<td>• Fill a 10 ml syringe with local anesthetic (1% without epinephrine).</td>
<td></td>
</tr>
<tr>
<td>• With tenaculum or vulsellum forceps on the cervix, use slight traction and movement to help identify the area between the smooth cervical epithelium and the vaginal tissue.</td>
<td></td>
</tr>
<tr>
<td>• Insert the needle just under the epithelium and aspirate by drawing the plunger back slightly to make certain the needle is not penetrating a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>• Inject about 2 ml of a 1% local anesthetic just under the epithelium, not deeper than 2–3 mm at 3, 5, 7, and 9 o’clock.</td>
<td></td>
</tr>
<tr>
<td>• Wait a minimum of 2–4 minutes for the anesthetic to have maximum effect.</td>
<td></td>
</tr>
<tr>
<td>8. Gently apply traction on the cervix to straighten the cervical canal and dilate the cervix (if needed).</td>
<td></td>
</tr>
<tr>
<td>9. While holding the cervix steady, insert the cannula gently through the cervix into the uterine cavity until it just touches the fundus (not &gt;10 cm). Then withdraw the cannula slightly away from the fundus.</td>
<td></td>
</tr>
<tr>
<td>10. Attach the prepared syringe to the cannula by holding the end of the cannula in one hand and the syringe in the other. Make sure the cannula does not move forward as the syringe is attached.</td>
<td></td>
</tr>
<tr>
<td>11. Evacuate contents of the uterus by rotating the cannula and syringe from 10 to 12 o’clock and moving the cannula gently and slowly back and forth within the uterine cavity.</td>
<td></td>
</tr>
<tr>
<td>12. If the syringe becomes half full before the procedure is complete, close the valves and detach the cannula from the syringe. Remove only the syringe, leaving the cannula in place:</td>
<td></td>
</tr>
<tr>
<td>• Push the plunger to empty POC into the strainer after measuring volume.</td>
<td></td>
</tr>
<tr>
<td>• Recharge syringe, attach to cannula and pinch valve(s).</td>
<td></td>
</tr>
<tr>
<td>13. Check for signs of completion (red or pink foam, no more tissue in cannula or “gritty” sensation.) Withdraw cannula and MVA syringe gently.</td>
<td></td>
</tr>
<tr>
<td>14. Remove cannula from MVA syringe and push the plunger to empty contents into strainer.</td>
<td></td>
</tr>
<tr>
<td>15. Rinse the POC with water or saline.</td>
<td></td>
</tr>
<tr>
<td>16. Inspect tissue removed from uterus and ensure it is POC.</td>
<td></td>
</tr>
<tr>
<td>17. When the signs of a complete procedure are present, remove forceps or tenaculum and speculum.</td>
<td></td>
</tr>
<tr>
<td>18. Perform bimanual examination to check size and firmness of uterus.</td>
<td></td>
</tr>
<tr>
<td>20. If uterus is still soft or bleeding persists, repeat steps 4–11.</td>
<td></td>
</tr>
</tbody>
</table>

**POST-MVA TASKS**

1. Let patient lie on her side in a comfortable position.

2. Before removing gloves, dispose of waste materials and soak instruments and MVA items in 0.5% chlorine solution for 10 minutes for decontamination.
### LEARNING GUIDE FOR POSTABORTION CARE

**CLINICAL SKILLS**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
</table>
| 3. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning inside out:  
  - If disposing of gloves, place in leak-proof container or plastic bag.  
  - If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 4. Attach used cannula to MVA syringe and flush both with 0.5% chlorine solution.  
  Detach cannula and soak them in chlorine solution for 10 min. |       |
| 5. Empty POC into utility sink, flushable latrine or toilet or container with tight-fitting lid. |       |
| 6. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
| 7. Check for amount of bleeding and if cramping has decreased, at least once before discharge. |       |
| 8. Instruct patient regarding postabortion care (e.g., when patient should return to clinic). |       |
| 9. Discuss reproductive goals and, as appropriate, provide family planning. |       |
| 10. Tell her when to return if follow-up is needed and that she can return anytime she has concerns. |       |
# LEARNING GUIDE: POSTABORTION FAMILY PLANNING

## COUNSELING SKILLS

(To be used by **Participants**)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

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## LEARNING GUIDE FOR POSTABORTION FAMILY PLANNING

### COUNSELING SKILLS

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INITIAL INTERVIEW</strong></td>
<td></td>
</tr>
<tr>
<td>1. Greet woman respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>2. Assess whether counseling is appropriate at this time (if not, arrange for her to be counseled at another time).</td>
<td></td>
</tr>
<tr>
<td>3. Assure necessary privacy.</td>
<td></td>
</tr>
<tr>
<td>4. Use effective interpersonal communication (two-way communication, active listening, appropriate non-verbal communication). Encourage patient to ask questions.</td>
<td></td>
</tr>
<tr>
<td>5. Obtain biographic information (name, address, etc.).</td>
<td></td>
</tr>
<tr>
<td>6. Ask if she was using contraception before she became pregnant. If she was, find out if she:</td>
<td></td>
</tr>
<tr>
<td>• Used the method correctly</td>
<td></td>
</tr>
<tr>
<td>• Discontinued use</td>
<td></td>
</tr>
<tr>
<td>• Had any trouble using the method</td>
<td></td>
</tr>
<tr>
<td>• Has any concerns about the method</td>
<td></td>
</tr>
<tr>
<td>7. Provide general information about family planning.</td>
<td></td>
</tr>
<tr>
<td>8. Explore any attitudes or religious beliefs that either favor or rule out one or more methods.</td>
<td></td>
</tr>
<tr>
<td>9. Give the woman information about the contraceptive choices available and the risks and benefits of each:</td>
<td></td>
</tr>
<tr>
<td>• Show where and how each is used.</td>
<td></td>
</tr>
<tr>
<td>• Explain how the method works and its effectiveness.</td>
<td></td>
</tr>
<tr>
<td>• Explain possible side effects and other health problems.</td>
<td></td>
</tr>
<tr>
<td>• Explain the common side effects.</td>
<td></td>
</tr>
<tr>
<td>10. Discuss patient’s needs, concerns and fears in a thorough and sympathetic manner.</td>
<td></td>
</tr>
<tr>
<td>11. Help patient begin to choose an appropriate method.</td>
<td></td>
</tr>
<tr>
<td><strong>PATIENT SCREENING</strong></td>
<td></td>
</tr>
<tr>
<td>1. Screen patient carefully to make sure there is no medical condition that would be a problem.</td>
<td></td>
</tr>
</tbody>
</table>
## LEARNING GUIDE FOR POSTABORTION FAMILY PLANNING

### COUNSELING SKILLS

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>2. Explain potential side effects and make sure that each is fully understood.</td>
<td></td>
</tr>
<tr>
<td>3. Perform further evaluation (physical examination), if indicated. (Non-medical counselors must refer patient for further evaluation.)</td>
<td></td>
</tr>
<tr>
<td>4. Discuss what to do if the patient experiences any side effects or problems.</td>
<td></td>
</tr>
<tr>
<td>5. Provide follow-up visit instructions.</td>
<td></td>
</tr>
<tr>
<td>6. Assure patient that she can return to the same clinic at any time to receive advice or medical attention.</td>
<td></td>
</tr>
<tr>
<td>7. Ask the patient to repeat instructions.</td>
<td></td>
</tr>
<tr>
<td>8. Answer patient’s questions.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: POSTABORTION CARE CLINICAL SKILLS
(To be used by the Facilitator/Teacher at the end of the module)

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Participant _______________________________ Date Observed __________________________

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<td>5. Check MVA syringe and charge it (establishes vacuum).</td>
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<tr>
<th>SKILL/ACTIVITY PERFORMED SATISFACTORILY</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>MVA PROCEDURE</td>
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<td>5. Put tenaculum or vulsellum forceps on posterior lip of cervix.</td>
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</tr>
<tr>
<td>6. Correctly administer paracervical block (if necessary).</td>
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</tr>
<tr>
<td>7. Dilate the cervix (if needed).</td>
<td></td>
</tr>
<tr>
<td>8. While holding the cervix steady, insert the cannula gently through the cervix into the uterine cavity.</td>
<td></td>
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</table>
### CHECKLIST FOR POSTABORTION CARE

#### CLINICAL SKILLS

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<tr>
<td>9. Attach the prepared syringe to the cannula by holding the end of the cannula in one hand and the syringe in the other.</td>
<td></td>
</tr>
<tr>
<td>10. Evacuate contents of the uterus by rotating the cannula and syringe and moving the cannula gently and slowly back and forth within the uterine cavity.</td>
<td></td>
</tr>
<tr>
<td>11. Inspect tissue removed from uterus and ensure it is POC.</td>
<td></td>
</tr>
<tr>
<td>12. When the signs of a complete procedure are present, withdraw the cannula and MVA syringe and remove forceps or tenaculum and speculum.</td>
<td></td>
</tr>
<tr>
<td>13. Perform bimanual examination to check size and firmness of uterus.</td>
<td></td>
</tr>
<tr>
<td>15. If uterus is still soft or bleeding persists, repeat steps 4–11.</td>
<td></td>
</tr>
</tbody>
</table>

#### SKILL/ACTIVITY PERFORMED SATISFACTORILY

### POST-MVA TASKS

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Before removing gloves, dispose of waste materials and soak instruments and MVA items in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
</tbody>
</table>
| 2. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning inside out:  
  • If disposing of gloves, place in leak-proof container or plastic bag.  
  • If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination. |       |
| 3. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |
| 4. Check for amount of bleeding and if cramping has decreased at least once before discharge. |       |
| 5. Instruct patient regarding postabortion care (e.g., when patient should return to clinic). |       |
| 6. Discuss reproductive goals and, as appropriate, provide family planning. |       |

#### SKILL/ACTIVITY PERFORMED SATISFACTORILY
CHECKLIST: POSTABORTION FAMILY PLANNING COUNSELING SKILLS
(To be used by the Facilitator/Teacher at the end of the module)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines
Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines
Not Observed: Step or task or skill not performed by learner during evaluation by facilitator/teacher

Participant ____________________________________ Date Observed __________________

<table>
<thead>
<tr>
<th>CHECKLIST FOR POSTABORTION FAMILY PLANNING COUNSELING SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP/TASK</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>INITIAL INTERVIEW</td>
</tr>
<tr>
<td>1. Greet woman respectfully and with kindness.</td>
</tr>
<tr>
<td>2. Assess whether counseling is appropriate at this time (if not, arrange for her to be counseled at another time).</td>
</tr>
<tr>
<td>3. Assure necessary privacy.</td>
</tr>
<tr>
<td>4. Obtain biographic information (name, address, etc.).</td>
</tr>
<tr>
<td>5. Ask if she was using contraception before she became pregnant. If she was, find out if she:</td>
</tr>
<tr>
<td>• Used the method correctly</td>
</tr>
<tr>
<td>• Discontinued use</td>
</tr>
<tr>
<td>• Had any trouble using the method</td>
</tr>
<tr>
<td>• Has any concerns about the method</td>
</tr>
<tr>
<td>6. Provide general information about family planning.</td>
</tr>
<tr>
<td>7. Explore any attitudes or religious beliefs that either favor or rule out one or more methods.</td>
</tr>
<tr>
<td>8. Give the woman information about the contraceptive choices available and the risks and benefits of each:</td>
</tr>
<tr>
<td>• Show where and how each is used.</td>
</tr>
<tr>
<td>• Explain how the method works and its effectiveness.</td>
</tr>
<tr>
<td>• Explain possible side effects and other health problems.</td>
</tr>
<tr>
<td>• Explain the common side effects.</td>
</tr>
<tr>
<td>9. Discuss patient’s needs, concerns and fears in a thorough and sympathetic manner.</td>
</tr>
<tr>
<td>10. Help patient begin to choose an appropriate method.</td>
</tr>
<tr>
<td>SKILL/ACTIVITY PERFORMED SATISFACTORILY</td>
</tr>
<tr>
<td>PATIENT SCREENING</td>
</tr>
<tr>
<td>1. Screen patient carefully to make sure there is no medical condition that would be a problem (complete Patient Screening Checklist).</td>
</tr>
</tbody>
</table>
### Checklist for Postabortion Family Planning

**Counseling Skills**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Explain potential side effects and make sure that each is fully understood.</td>
<td></td>
</tr>
<tr>
<td>3. Perform further evaluation (physical examination), if indicated. (Non-medical counselors must refer patient for further evaluation.)</td>
<td></td>
</tr>
<tr>
<td>4. Discuss what to do if the patient experiences any side effects or problems.</td>
<td></td>
</tr>
<tr>
<td>5. Provide follow-up visit instructions.</td>
<td></td>
</tr>
<tr>
<td>6. Assure patient she can return to the same clinic at any time to receive advice or medical attention.</td>
<td></td>
</tr>
<tr>
<td>7. Ask the patient to repeat instructions.</td>
<td></td>
</tr>
<tr>
<td>8. Answer patient’s questions.</td>
<td></td>
</tr>
</tbody>
</table>

**Skill/activity performed satisfactorily**
KNOWLEDGE ASSESSMENT: POSTABORTION CARE

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The signs of an incomplete abortion include all of the following except:
   a. A missed period or delayed menstrual bleeding
   b. Vaginal bleeding
   c. Cramping or lower abdominal pain
   d. Passage of pregnancy tissue
   e. Fever

2. Serious complications that must be screened for immediately include:
   a. Signs of shock
   b. Signs and symptoms of severe bleeding
   c. Signs and symptoms of infection
   d. Signs and symptoms of intra-abdominal injury
   e. All of the above

3. Family planning methods that can be started immediately following abortion for every woman who does not have an infection include:
   a. Oral contraceptives
   b. Progestin only injections
   c. IUD
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. One key to pain management during postabortion care is supportive attention from care providers, throughout care, including before, during and after the procedure.  

5. A client cannot become pregnant until the first menses after an abortion.
KNOWLEDGE ASSESSMENT: POSTABORTION CARE—
ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The signs of an incomplete abortion include all of the following except:
   a. A missed period or delayed menstrual bleeding
   b. Vaginal bleeding
   c. Cramping or lower abdominal pain
   d. Passage of pregnancy tissue
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2. Serious complications that must be screened for immediately include:
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   d. Signs and symptoms of intra-abdominal injury
   e. All of the above

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   a. Oral contraceptives
   b. Progestin only injections
   c. IUD
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. One key to pain management during postabortion care is supportive attention from care providers, throughout care, including before, during and after the procedure. TRUE

5. A client cannot become pregnant until the first menses after an abortion. FALSE
Best Practices in Postabortion Care

Session Objectives

- Describe the initial assessment of a woman bleeding in early pregnancy
- Define the stages of abortion
- Describe pain management in postabortion care
- Discuss postabortion family planning
- Describe the management of problems that may occur with Manual Vacuum Aspiration

RAPID Initial Assessment

- Rapid evaluation of woman’s general condition including vital signs (pulse, blood pressure, respiration, temperature)
- If shock suspected, immediately begin treatment
- If woman is in shock, consider ruptured ectopic pregnancy
- Start an IV infusion and infuse IV fluids

Question ??

What are the signs and symptoms of incomplete abortion?
Initial Assessment

Signs and symptoms of incomplete abortion:
- A missed period or delayed menstrual bleeding
- Vaginal bleeding
- Cramping or lower abdominal pain
- Passage of pregnancy tissue

Initial Assessment (cont.)

Screening for serious complications:
- Signs of shock
- Signs and symptoms of severe bleeding
- Signs and symptoms of infection/sepsis
- Signs and symptoms intra-abdominal injury

Initial Assessment (cont.)

History:
- Medical history
- LMP
- Vaginal bleeding (amount and duration)
- Cramping (duration and severity)
- Fever, chills or general malaise
- Abdominal and shoulder pain
- Tetanus vaccination status

Initial Assessment (cont.)

Examination:
- General examination
- Abdominal examination
- Pelvic examination
Question ??

What are the stages of abortion?

Stages of Abortion

- Threatened abortion
- Inevitable abortion
- Incomplete abortion
- Complete abortion

NOTE: Bleeding in pregnancy can also be caused by ectopic or molar pregnancies.

Bleeding in Early Pregnancy: Management of Threatened Abortion

- Medical treatment usually not necessary.
- Advise woman to avoid strenuous activity and sexual intercourse; bed rest not necessary.
- If bleeding stops, followup in antenatal clinic. Reassess if bleeding recurs.
- If bleeding persists, assess for fetal viability (pregnancy test/ultrasound) or ectopic pregnancy (ultrasound). Persistent bleeding, esp. in the presence of uterus larger than expected, may indicate twins or molar pregnancy.

Management of Inevitable Abortion

- If pregnancy is < 16 weeks, plan for evacuation of uterine contents. If evacuation not immediately possible:
  - Give ergometrine 0.2 mg IM (repeated after 15 min. if necessary) OR misoprostol 400 mcg by mouth (repeated once after 4 hours if necessary);
  - Arrange for evacuation as soon as possible.
- If pregnancy is ≥ 16 weeks:
  - Await spontaneous expulsion of products of conception and then evacuate uterus to remove any remaining products of conception
  - If necessary, infuse oxytocin 40 units in 1 L IV fluids at 40 drops/min to help expulsion of products of conception

Do not give medications such as hormones (e.g. estrogens or progestins) or tocolytic agents (e.g. salbutamol or indomethacin) as they will not prevent miscarriage.
Management of Incomplete Abortion: < 16 Weeks

- If bleeding light to moderate, use fingers or ring (or sponge) forceps to remove products of conception protruding through cervix.
- If bleeding heavy, evacuate uterus:
  - Manual vacuum aspiration (MVA) is preferred method.
  - If evacuation not immediately possible, give ergometrine 0.2 mg IM (repeated after 15 min. if necessary) OR misoprostol 400 mcg orally (repeated once after 4 hours if necessary).
- Ensure follow-up of the woman after treatment.

Management of Incomplete Abortion: ≥ 16 Weeks

- Infuse oxytocin 40 units in 1 L IV fluids at 40 drops/min. until expulsion of POC occurs
- Evacuate any remaining POC from uterus by dilatation and curettage
- If necessary, give misoprostol 200 mcg vaginally every 4 hours until expulsion, but do not administer more than 800 mcg
- Ensure follow-up of the woman after treatment

MVA: Pain Management

Keys to pain management:
- Supportive attention from staff before, during and after the procedure
- A provider who is comfortable working with patients who are awake and is trained to handle instruments gently
- Selection of an appropriate level of pain medication
- Use of verbacaine

MVA: Pain Management (cont.)

Tips for working with patients who are awake:
- Explain each step of the procedure prior to performing it
- Wait a few second after performing each task
- Move slowly, without jerky or quick motion; use instruments with confidence
- Talk with the patient throughout the procedure
MVA: Pain Management (cont.)

The need for supplemental medication or paracervical block depends on:
- The emotional status of the patient
- How open (dilated) the cervix is
- Anticipated length of the procedure

Problems and Complications during MVA

Technical problems:
- Syringe full
- Cannula withdrawn prematurely
- Cannula clogged
- Syringe does not hold vacuum

Procedural problems:
- Little, if any, tissue
- Incomplete evacuation

Management of Problems and Complications during MVA

Syringe full:
- Close the pinch valve of the syringe
- Disconnect the syringe from the cannula
- Empty the syringe into a container
- Re-establish a vacuum in a syringe, reconnect and resume the aspiration

Management of Problems and Complications during MVA (cont.)

Cannula withdrawn prematurely:
- Remove the syringe and cannula
- Close the pinch valve of the syringe
- Detach the syringe from the cannula, empty the syringe, then re-establish the vacuum in the syringe
- Reinsert the cannula
- Reconnect the syringe release the valve and continue aspiration
Management of Problems and Complications during MVA (cont.)

Cannula clogged:
- Close the pinch valve
- Remove the syringe and cannula
- Remove the material from the opening in the cannula using a sterile or HLD forceps
- Reinsert the cannula, attach a prepared syringe and release the pinch valve

Complications during MVA

- Uterine perforation
- Cervical perforation
- Shock, severe vaginal bleeding and post-MVA infection
- Air embolism

Postabortion Family Planning

What all PAC patients should understand:
- They can become pregnant again before the next menses
- There are safe methods to prevent or delay pregnancy
- Where and how they can obtain family planning services and methods

Factors Limiting Provision of Postabortion Family Planning Services

- Health care staff may have misconceptions about which contraceptive methods are appropriate.
- Providers of emergency postabortion care may NOT view the provision of contraceptive services as their responsibility.
- In hospitals, there may be administrative divisions (Ob/Gyn and FP services).
Factors Limiting Provision of Post-abortal Family Planning Services (cont.)

- Often, emergency PAC and FP services are not coordinated
- Women who have been treated for incomplete abortion may not realize that their fertility will return soon
- Women may not know where FP and other reproductive health services are available

Postabortion Family Planning (cont.)

Components of good postabortal FP care:

- Information and counseling about methods, their characteristics, effectiveness and side effects
- Choice of methods
- Assurance of contraceptive resupply
- Access to follow-up care

Question ??

What methods of family planning can be used postabortion and how long after the abortion do you need to wait to begin each method?

PAC Contraceptive Methods

These methods can be started immediately for every woman who meets criteria:

- Oral contraceptives
- Progestin-only contraceptives
- Patches
- Implants
- Condoms
PAC Contraceptive Methods (cont.)

These methods can be started once infection is ruled out or resolved:
- Female sterilization
- IUD
- Fertility awareness methods

Postabortion Family Planning (cont.)

Postabortion family planning should be based on an individual assessment of every woman’s situation:
- Her personal characteristics, needs and reproductive goals
- Her clinical condition

Summary of FP Methods after Postabortion Care

<table>
<thead>
<tr>
<th>Type of FP Method</th>
<th>Advise to Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormonal</td>
<td>Immediately</td>
</tr>
<tr>
<td>Condoms</td>
<td>Immediately</td>
</tr>
<tr>
<td>IUD</td>
<td>Immediately</td>
</tr>
<tr>
<td>Or</td>
<td>If infection present or suspected, delay insertion/surgery until cleared</td>
</tr>
<tr>
<td>Voluntary Tubal Ligation</td>
<td>If Hb &lt; 7 g/dL, delay until anemia improves</td>
</tr>
<tr>
<td></td>
<td>Provide interim method (e.g., condom)</td>
</tr>
</tbody>
</table>
## MODULE 17: BEST PRACTICES IN THE MANAGEMENT OF BLEEDING IN LATE PREGNANCY—SESSION PLAN

### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in the Management of Bleeding in Late Pregnancy</td>
<td>60 min</td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

*By the end of this session, participants will be able to:*

- Describe best practices for the diagnosis and management of abruptio placentae
- Describe best practices for the diagnosis and management of placenta previa

### Methods and Activities

#### Group work: Case study (15 min)
- Participants divide into groups of two to discuss case study.
- Use case study example as you proceed through PowerPoint presentation.
- Be sure to cover the following topical areas:
  - Definition of bleeding in late pregnancy
  - Causes of bleeding in late pregnancy
  - Description of abruptio placentae
  - Diagnosis of abruptio placentae
  - Management of abruptio placentae
  - Description of placenta previa
  - Diagnosis of placenta previa
  - Management of placenta previa

#### Illustrated presentation/discussion: Bleeding in late pregnancy (25 min)
- Use questions and discussion throughout presentation as indicated on slides.
- Discuss issues that arise during presentation and questioning.

#### Case study: Bleeding in late pregnancy (20 min)
- Read case study and questions to large group.
- Discuss each response from the group in the diagnosis and management of the woman in this case study.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
CASE STUDY: BLEEDING IN LATE PREGNANCY

DIRECTIONS

This case study can be used with a single group, with the facilitator/teacher reading the questions and findings, and the learners answering the questions as a group. This particular case study is better for narrating by a facilitator rather than for small group work in which the case study is read by individuals, since the answers to the questions are implied in the information given.

Alternatively, learners can be divided into smaller groups. In the groups, learners will read and analyze this case study individually. When the others in the group have finished reading it, the group discusses the answers the case study questions together. The other groups in the room are working on the same or a similar case study. When all groups have finished, the reassembled group will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. F. arrives in the emergency room saying that she is pregnant and has been bleeding for the past 2 hours. Mrs. F. reports that she has been coming to the clinic for regular antenatal care and that her midwife said that all physical exams and lab tests were normal. Mrs. F. brings her antenatal record card with her.

1. What is the first thing you will do?

Mrs. F.’s BP is 94/60 and pulse is 96. She is not in shock, so you can proceed with your assessment.

2. What are some of the key questions you will ask Mrs. F., and why?

The history reveals that Mrs. F. is 36 weeks pregnant. This is confirmed by history of beginning fetal movement. She reports that she has felt the baby move normally today. She denies having any contractions or other pain. She reports no unusual activity, and admits that she had had intercourse immediately before the bleeding began.

3. What physical examination will you include in your assessment of Mrs. F., and why?

Abdominal exam confirms that Mrs. F. is 36 weeks gestation, has a longitudinal lie with head presentation. However, the head is high and floating. She is having no palpable contractions. The FHT is 140 beats/min and regular. Mrs. F.’s conjunctiva are pink. Blood is visible on her perineum in a light steady trickle. However, the flow is lessening. Mrs. F.’s ANC record shows that she has had all routine antenatal lab tests and that they were all within normal range. Her hemoglobin 2 months ago was 12 Gm. Her HIV test and RPR test were negative. At her first ANC visit, her BP was 120/70 and her pulse was 80.

4. What physical exam should be excluded from her assessment today?

5. What laboratory tests will you include in your assessment of Mrs. F. Today, and why?

- Mrs. F.’s hemoglobin today is 11 gm.
6. You have completed your assessment of Mrs. F. What is your provisional diagnosis, and why?

7. What will you do for Mrs. F. at this point?

Mrs. F. reaches 37 weeks. Her condition and the condition of the baby are still good. Her hemoglobin is 11 gm. Bleeding is intermittent, and increased this morning. Mrs. F. began having contractions every 7–10 minutes lasting 25–35 seconds this morning. What further examination might you do now, and how would you do it?
CASE STUDY: BLEEDING IN LATE PREGNANCY—ANSWER KEY

DIRECTIONS

This case study can be used with a single group, with the facilitator/teacher reading the questions and findings and the learners answering the questions as a group. This particular case study is better for narrating by a facilitator rather than for small group work in which the case study is read by individuals, since the answers to the questions are implied in the information given.

Alternatively, learners can be divided into smaller groups. In the groups, learners will read and analyze this case study individually. When the others in the group have finished reading it, the group discusses the answers the case study questions together. The other groups in the room are working on the same or a similar case study. When all groups have finished, the reassembled group will discuss the case studies and the answers each group developed.

CLIENT PROFILE

Mrs. F. arrives in the emergency room saying that she is pregnant and has been bleeding for the past 2 hours. Mrs. F. reports that she has been coming to the clinic for regular antenatal care and that her midwife said that all physical exams and lab tests were normal. Mrs. F. brings her antenatal record card with her.

1. What is the first thing you will do?
   - Do a rapid assessment to determine if Mrs. F. is in shock.
   - Mrs. F.’s BP is 94/60 and pulse is 96. She is not in shock, so you can proceed with your assessment.

2. What are some of the key questions you will ask Mrs. F., and why?
   - How many weeks or months pregnant is she? You may ask the following questions to confirm her answer: When was her last menstrual period? When did she feel the baby first move? You may also review her ANC record card for confirmation.
   - Has the baby moved normally today?
   - Is she having contractions?
   - Have her membranes ruptured?
   - What was she doing when the bleeding started? Was she having intercourse when the bleeding started?

The history reveals that Mrs. F. is 36 weeks pregnant. This is confirmed by history of beginning fetal movement. She reports that she has felt the baby move normally today. She denies having any contractions or other pain. She reports no unusual activity, and admits that she had had intercourse immediately before the bleeding began.
3. What physical examination will you include in your assessment of Mrs. F., and why?

- Vital signs have already been taken to ensure that she is not in shock. An abdominal exam [fundal height, lie and presentation since she is reportedly 36 weeks, fetal heart], will confirm her gestational age, determine the lie and presentation of the baby, and indicate the well-being of the baby. An external genital exam can be done to observe the amount of external bleeding.

Abdominal exam confirms that Mrs. F. is 36 weeks gestation, has a longitudinal lie with head presentation. However, the head is high and floating. She is having no palpable contractions. The FHT is 140 beats/min and regular. Mrs. F.’s conjunctiva are pink. Blood is visible on her perineum in a light steady trickle. However, the flow is lessening. Mrs. F.’s ANC record shows that she has had all routine antenatal lab tests and that they were all within normal range. Her hemoglobin 2 months ago was 12 Gm. Her HIV test and RPR test were negative. At her first ANC visit, her BP was 120/70 and her pulse was 80.

4. What physical exam should be excluded from her assessment today?

- A vaginal exam should not be done when placenta previa is suspected because a finger could dislodge the placenta further and cause heavy bleeding.

5. What laboratory tests will you include in your assessment of Mrs. F. today, and why?

- A hemoglobin determination should be made to determine whether she is anemic, to compare with her ANC hemoglobin, and to provide a baseline for future gauging of blood loss.
- Mrs. F.’s hemoglobin today is 11 Gm.

**DIAGNOSIS**
(Interpreting information to identify problems/needs)

6. You have completed your assessment of Mrs. F. What is your provisional diagnosis and why?

Diagnosis: Placenta previa. She is having painless bleeding that was precipitated by intercourse. She is more than 22 weeks gestation. The FHT is normal. The fetal head is high. She is bleeding vaginally. She is not in shock but her vital signs suggest that she has lost blood.

7. What will you do for Mrs. F. at this point?

a. Start an IV infusion of normal saline or Ringer's lactate.

b. Admit her to the hospital until delivery.

c. Continuously assess bleeding and vital signs. If bleeding becomes continuous and heavy, a C-section will be necessary.

d. Ensure that blood is available.

e. If an ultrasound is available, a US can be performed to confirm diagnosis, localize placenta, and assess maturity of fetus. If US not available, manage as placenta previa until 37 weeks.

Mrs. F. reaches 37 weeks. Her condition and the condition of the baby are still good. Her hemoglobin is 11 Gm. Bleeding is intermittent, and increased this morning. Mrs. F. began having contractions every 7–10 minutes lasting 25–35 seconds this morning. What further examination might you do now, and how would you do it?
At 37 weeks, a vaginal speculum exam with a high-level disinfected speculum can be performed under double set-up to confirm diagnosis. The double set-up prepares for either vaginal or C-section delivery. Exam shows the cervix to be approximately 6 centimeters dilated and no placenta tissue is visible. Bleeding has not increased. Labor is allowed to progress under careful observation with C-section set-up remaining.
KNOWLEDGE ASSESSMENT:
MANAGEMENT OF BLEEDING IN LATE PREGNANCY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The most common causes of bleeding in late pregnancy are:
   a. Placenta previa
   b. Abruptio placentae
   c. A hydatidiform mole (molar pregnancy)
   d. a) and b)
   e. All of the above

2. Symptoms that may be present with a placenta previa include:
   a. Shock
   b. Relaxed (not tense) uterus
   c. Bleeding precipitated by intercourse
   d. All of the above

3. A woman with a placenta previa is more likely than the woman with a normal placenta to have:
   a. A postpartum hemorrhage
   b. A placenta accreta/increta
   c. Hypertension
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. The two constant signs of abruptio placentae are abdominal pain and vaginal bleeding.  

5. If bleeding is heavy with an abruptio placentae, the first treatment should be to give ergometrine 0.2 mg IM and wait for labor to progress. 

6. The first part of the physical exam for a woman with suspected placenta previa should be a vaginal exam to determine whether the placenta is placed over the placenta. 

7. Outpatient management of stable preterm patients with placenta previa is possible if the patient understands danger signs and self-care and is able to return to the hospital if necessary.
KNOWLEDGE ASSESSMENT: MANAGEMENT OF BLEEDING IN LATE PREGNANCY—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The most common causes of bleeding in late pregnancy are:
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. The two constant signs of abruptio placentae are abdominal pain and vaginal bleeding.  
   FALSE

5. If bleeding is heavy with an abruptio placentae, the first treatment should be to give ergometrine 0.2 mg IM and wait for labor to progress.  
   FALSE

6. The first part of the physical exam for a woman with suspected placenta previa should be a vaginal exam to determine whether the placenta is placed over the placenta.  
   FALSE

7. Outpatient management of stable preterm patients with placenta previa is possible if the patient understands danger signs and self-care and is able to return to the hospital if necessary.  
   TRUE
Best Practices in the Management of Bleeding in Late Pregnancy

Session Objectives

- To describe best practices for the diagnosis and management of abruptio placentae
- To describe best practices for the diagnosis and management of placenta previa

Definition

Vaginal bleeding that occurs:
- After 22 to 28 weeks of pregnancy (late) (in most African countries 28 weeks)
- During labor before childbirth

Question ??

What are the most common causes of bleeding in late pregnancy?
Bleeding in Late Pregnancy: Antepartum Hemorrhage

- Abruptio placentae
- Placenta previa
- Others: Vasa praevia, cervical, vaginal diseases

Question ??

What is an abruptio placentae?

Bleeding in Late Pregnancy: Abruptio Placentae

Definition: Detachment of normally located placenta from uterus before fetus is delivered

Abruptio Placentae

REVEALED

CONCEALED
Bleeding in Late Pregnancy: Diagnosis of Abruptio Placentae

- Bleeding (may be retained in uterus) after 22 weeks gestation
- INTERMITTENT OR CONSTANT ABDOMINAL PAIN

Symptoms sometimes present:
- Shock
- TENSE/TENDER UTERUS
- Decreased/absent fetal movements
- Fetal distress or absent fetal heart sounds
- Ultrasound confirmation

Management of Abruptio Placentae

- Assess clotting status, e.g., bedside clotting test. (No clot after 7 minutes, or soft clot that breaks down easily, suggests coagulopathy.)
- Manage shock
- Transfuse as necessary
- If bleeding is heavy, deliver as soon as possible:
  - If the cervix is fully dilated, deliver by vacuum extraction
  - If vaginal delivery not imminent, deliver by C/section
- Note: In every case of abruptio placentae, be prepared for postpartum hemorrhage.

Management of Abruptio Placentae (cont.)

- If bleeding is light to moderate (the mother is not in immediate danger), the course of action depends on fetal heart sounds:
  - If fetal heart sounds are normal or absent, rupture membranes with amniotic hook or Kocher clamp:
    - If contractions are poor, augment labor with oxytocin
    - If cervix is unfavorable, perform cesarean section
  - If fetal heart sounds abnormal (< 100 or > 180 beats/min): Perform rapid vaginal delivery
  - If vaginal delivery not possible, deliver by immediate C/section
Question ??

What is placenta previa?

Placenta Previa

Bleeding in Late Pregnancy: Placenta Previa

- Placenta previa: Implantation of placenta at or near cervix
- Three types:
  - Low placental implantation
  - Partial placenta previa
  - Complete placenta previa

Question ??

How would you diagnose placenta previa? What are the symptoms and signs?
Bleeding in Late Pregnancy: Diagnosis of Placenta Previa

- Bleeding after 22–28 weeks gestation

Symptoms sometimes present:
- Shock
- Bleeding may be precipitated by intercourse
- Relaxed uterus
- Fetal presentation not in pelvis/lower uterine pole feels empty
- Normal fetal condition

Bleeding in Late Pregnancy: Confirming Placenta Previa

- Localize placenta with ultrasound, if available
- If placenta previa is confirmed:
  - Plan delivery if fetus is mature
  - Manage expectantly if fetus is less than 37 weeks and bleeding is not life-threatening
- If diagnosis is uncertain:
  - Manage expectantly as placenta previa until 37 weeks gestation
  - If pregnancy is 37 weeks or more, examine under double-set up

Bleeding in Late Pregnancy: Expectant Management of Placenta Previa

- Assess amount of bleeding:
  - Do not perform a vaginal examination
  - If bleeding is heavy and continuous, deliver by cesarean section regardless of gestation
- Consider expectant management if:
  - Bleeding is light or has stopped
  - Fetus is alive but less than 37 weeks gestation

Bleeding in Late Pregnancy: Expectant Management

- Keep woman in hospital until delivery
- Correct anemia with oral iron
- Ensure blood is available for transfusion
- If bleeding recurs, weigh benefits and risks for woman and fetus of further expectant management versus delivery
Inpatient vs. Outpatient Expectant Management: Study Objective

Determine safety, efficacy and costs of inpatient and outpatient management of symptomatic placenta previa

Design: Randomized controlled trial

Inpatient vs. Outpatient Expectant Management: Study Criteria

Inclusion criteria:
- Singleton gestation
- Gestational age 24–36 weeks
- Intact membranes
- Normal fetal anatomic survey
- Reactive nonstress test

Exclusion criteria:
- Hemodynamic instability
- Other vaginal bleeding
- Three or more episodes of bleeding before presentation
- Obstetric complications
- Serious underlying medical disorder
- Lack of telephone contact
- Lack of resources to return rapidly to hospital


Maternal Outcome Measures

<table>
<thead>
<tr>
<th></th>
<th>Inpatient</th>
<th>Outpatient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pregnancy prolonged</td>
<td>38.1 ± 23.5</td>
<td>33.1 ± 22.6</td>
<td>p = 0.44</td>
</tr>
<tr>
<td>Total hospital stay</td>
<td>28.6 ± 20.3</td>
<td>10.1 ± 8.5</td>
<td>p &lt; 0.0001</td>
</tr>
<tr>
<td>Total episodes of bleeding</td>
<td>2.7 ± 2.4</td>
<td>2.3 ± 1.1</td>
<td>p = 0.45</td>
</tr>
<tr>
<td>Transfusion</td>
<td>4 (14.8%)</td>
<td>1 (3.8%)</td>
<td>p = 0.67</td>
</tr>
</tbody>
</table>


Inpatient vs. Outpatient Expectant Management: Study Conclusion

Outpatient management of stable preterm patients with placenta previa is possible if the patient understands danger signs and self-care and is able to return to the hospital if necessary.

Bleeding in Late Pregnancy: Delivery for Placenta Previa

- Plan delivery by cesarean section if:
  - Hemorrhage is severe enough to cause risk to mother
  - Fetus is at least 37 weeks gestation
  - Fetus is dead or cannot survive
  - Major praevia
- Vaginal delivery may be possible with low placental implantation
- Women with placenta previa are at high risk for postpartum hemorrhage and placenta accreta/increta

Case Study: Bleeding in Late Pregnancy

- Facilitate the reading and answering of Case Study: Bleeding in Late Pregnancy
- Discuss answers and questions that arise during discussion

Summary

- Vaginal bleeding in late pregnancy and labor can be catastrophic:
  - Evaluate rapidly
  - Resuscitate if patient in shock
  - Differentiate abruptio placentae and placenta previa because of difference in mode of delivery

References

Ganges F. 2006. Bleeding in Late Pregnancy, a presentation in Accra, Ghana, Basic Maternal and Newborn Care Technical Update. (April).


### MODULE 18: BEST PRACTICES IN THE MANAGEMENT OF BLEEDING AFTER CHILDBIRTH—SESSION PLAN

#### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Management of Bleeding after Childbirth</td>
<td>210 min</td>
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</tbody>
</table>

#### SESSION OBJECTIVES

*By the end of this session, participants will be able to:*

- Describe the significance of postpartum hemorrhage
- Discuss the causes of postpartum hemorrhage
- Discuss the prevention of postpartum hemorrhage
- Describe the management of postpartum hemorrhage
- Develop skill in bimanual compression, compression of the aorta, manual removal of the placenta, and repair of first- and second-degree lacerations

#### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: Vaginal bleeding after childbirth (25 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ask questions of the larger group throughout the session.</td>
</tr>
<tr>
<td>- Intersperse presentation with questions, examples and discussion.</td>
</tr>
<tr>
<td>- Be sure to include the following topical areas:</td>
</tr>
<tr>
<td>- Significance of PPH</td>
</tr>
<tr>
<td>- Definition of PPH</td>
</tr>
<tr>
<td>- Causes of PPH</td>
</tr>
<tr>
<td>- Management of PPH</td>
</tr>
<tr>
<td>- Prevention of PPH</td>
</tr>
<tr>
<td>- ICM/FIGO Joint Statement</td>
</tr>
<tr>
<td>- First actions when a woman is found bleeding after childbirth</td>
</tr>
<tr>
<td>- Rapid assessment of a woman bleeding after childbirth</td>
</tr>
<tr>
<td>- Bimanual compression</td>
</tr>
<tr>
<td>- Compression of abdominal aorta</td>
</tr>
<tr>
<td>- Comparison of uterotonic</td>
</tr>
<tr>
<td>- Management of retained placenta</td>
</tr>
<tr>
<td>- Anesthesia considerations for procedures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case studies (35 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Participants divide into groups of three or four.</td>
</tr>
<tr>
<td>- Half of groups get Case Study 18.1 and half get Case Study 18.2.</td>
</tr>
<tr>
<td>- After working through questions, large group reassembles to discuss.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demonstration and practice (120 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Facilitator will demonstrate each of the following skills:</td>
</tr>
<tr>
<td>- Repair of vaginal sulcus, periurethral and cervical tears</td>
</tr>
<tr>
<td>- Manual removal of placenta</td>
</tr>
<tr>
<td>- Internal bimanual compression of the uterus</td>
</tr>
<tr>
<td>- Abdominal aortic compression</td>
</tr>
<tr>
<td>- Following demonstrations, groups of three will practice each skill.</td>
</tr>
<tr>
<td>- After practice, participants may volunteer to be assessed with checklist.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency drill (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Set up the scenario for the emergency drill described in Clinical Simulation for the Management of Bleeding after Childbirth.</td>
</tr>
<tr>
<td>- Spontaneously begin the drill while learners are practicing skills (or when in the clinical setting).</td>
</tr>
</tbody>
</table>

**NOTE:** The above practice may occur over several sessions and may continue on following day(s).
CASE STUDY 18.1: VAGINAL BLEEDING AFTER CHILDBIRTH

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. A. is 20 years old. She gave birth to a full-term newborn 2 hours ago at home. Her birth attendant was the local traditional birth attendant (TBA), who has brought Mrs. A. to the health center because she has been bleeding heavily since childbirth. The duration of labor was 12 hours, the birth was normal and the placenta was delivered 20 minutes after the birth of the newborn.

ASSESSMENT

(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis immediately or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. A., and why?

DIAGNOSIS

(Identification of problems/needs)

You have completed your rapid assessment of Mrs. A., and your main findings include the following:

- Mrs. A.’s pulse rate is 108 beats/minute, her blood pressure is 80/60 mm Hg, her respiration rate is 24 breaths/minute and her temperature is 36.8° C.
- She is pale and sweating.
- Her uterus is soft and does not contract with fundal massage. She has heavy, bright red vaginal bleeding.
- The TBA says that she thinks the placenta and membranes were complete.

4. Based on these findings, what is Mrs. A.’s diagnosis, and why?
5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?

EVALUATION

Some placental tissue has been removed from Mrs. A.’s uterus. Fifteen minutes after the initiation of treatment, however, she continues to have heavy vaginal bleeding. Her bedside clotting test is 5 minutes. Her pulse is 110 beats/minute and her blood pressure 80/60 mm Hg.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
CASE STUDY 18.1: VAGINAL BLEEDING AFTER CHILDBIRTH—
ANSWER KEY

CASE STUDY

Mrs. A. is 20 years old. She gave birth to a full-term newborn 2 hours ago at home. Her birth attendant was the local traditional birth attendant (TBA), who has brought Mrs. A. to the health center because she has been bleeding heavily since childbirth. The duration of labor was 12 hours, the birth was normal and the placenta was delivered 20 minutes after the birth of the newborn.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?
   - Mrs. A. and the TBA should be greeted respectfully and with kindness.
   - They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to check for the following signs to determine if she is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweatiness or cold, clammy skin; rapid breathing; confusion. She should also be assessed to determine whether the uterus contracted well after the delivery of the placenta and whether the placenta and membranes were complete.

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis immediately or identify her problems/needs, and why?
   - Mrs. A.’s uterus should be checked immediately to see whether it is contracted. If the uterus is contracted and firm, the most likely cause of bleeding is genital trauma. If the uterus is not contracted and the placenta is complete, the most likely cause of bleeding is an atonic uterus. The most important causes of bleeding can be suspected by palpating the uterus. If the uterus is not contracted, uterine massage should be started immediately.
   - Mrs. A.’s perineum, vagina and cervix should be carefully examined later for tears.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. A., and why?
   - None at this point.

DIAGNOSIS
(Identification of problems/needs)

You have completed your rapid assessment of Mrs. A., and your main findings include the following:

- Mrs. A.’s pulse rate is 108 beats/minute, her blood pressure is 80/60 mm Hg, her respiration rate is 24 breaths/minute and her temperature is 36.8º C.
She is pale and sweating.

Her uterus is soft and does not contract with fundal massage. She has heavy, bright red vaginal bleeding.

The TBA says she is not sure that all of the placenta came out.

4. Based on these findings, what is Mrs. A.’s diagnosis, and why?

- Mrs. A.’s symptoms and signs (e.g., immediate postpartum hemorrhage, uterus soft and not contracted, shock) are consistent with atonic uterus.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?

- Call for help/assistance, as many things have to be done simultaneously. Mrs. A. should not be left unattended.
- Oxytocin 10 units should be given IM to help the uterus contract, and uterine massage should continue.
- Mrs. A. should be treated for shock immediately:
  - Position her on her side.
  - Ensure that her airway is open.
  - Give her oxygen at 6–8 L/minute by mask or cannula.
  - Keep her warm.
  - Elevate her legs.
  - Monitor her pulse, blood pressure, respiration and temperature
  - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
  - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).
- If the uterus does not contract, manual exploration should be performed to check for and remove retained placental fragments.
- Blood should be drawn for hemoglobin and cross-matching, and blood for transfusion should be made available as soon as possible. A bedside clotting test should be done to determine whether coagulopathy is present (coagulopathy is both a cause and result of massive obstetric hemorrhage).
- The steps taken to manage the complication should be explained to Mrs. A., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.
EVALUATION

Some placental tissue has been removed from Mrs. A.’s uterus. Fifteen minutes after the initiation of treatment, however, she continues to have heavy vaginal bleeding. Her bedside clotting test is 5 minutes. Her pulse is 110 beats/minute and her blood pressure 80/60 mm Hg.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Blood should be made available for transfusion immediately.
- In the meantime, rapid fluid replacement should continue with Ringer’s lactate or normal saline.
- A second IV line should be used to infuse oxytocin 20 units in 1 L of fluid at 60 drops/minute. Alternatively, 15-methyl prostaglandin could be given IM.
- Bimanual compression of the uterus or abdominal aortic compression should be performed to control the bleeding; compression should be maintained until bleeding is controlled.
- If the bleeding continues in spite of compression, arrangements should be made immediately to transfer Mrs. A. to the district hospital for utero-ovarian artery ligation. If life-threatening bleeding continues after ligation, subtotal hysterectomy should be performed.
- The steps taken for continuing management of the complication should be explained to Mrs. A., she should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.
- Communication about Mrs. A.’s condition should be maintained between the health center (referring facility) and the district hospital (referral facility), particularly about her healthcare needs following discharge from hospital.

REFERENCE

CASE STUDY 18.2: VAGINAL BLEEDING AFTER CHILDBIRTH

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. B. is a 30-year-old, para four. She gave birth at the health center to a full-term healthy newborn weighing 4.2 kg. She was given ergometrine 0.2 mg after the birth of the newborn. The placenta was delivered 5 minutes later, without complication. Half an hour after childbirth, however, Mrs. B. reports that she has heavy vaginal bleeding.

ASSESSMENT

History, physical examination, screening procedures/laboratory tests

1. What will you include in your initial assessment of Mrs. B., and why?

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis immediately or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. B., and why?

DIAGNOSIS

Identification of problems/needs

You have completed your assessment of Mrs. B. and your main findings include the following:

- Mrs. B.’s pulse rate is 88 beats/minute, her blood pressure is 110/80 mm Hg, her respiration rate is 18 breaths/minute and her temperature is 37º C.
- Her uterus is firm and well contracted. The placenta is complete.
- She has no perineal trauma. Examination of the vagina and cervix is difficult because she continues to have heavy vaginal bleeding; therefore, tears of the cervix and vagina have not yet been ruled out.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?

CARE PROVISION

Planning and intervention

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?
EVALUATION

One hour after childbirth, Mrs. B. has a cervical tear repaired.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?
CASE STUDY 18.2: VAGINAL BLEEDING AFTER CHILDBIRTH—
ANSWER KEY

CASE STUDY

Mrs. B. is a 30-year-old para four. She gave birth at the health center to a full-term healthy
newborn weighing 4.2 kg. She was given ergometrine 0.2 mg after the birth of the newborn. The
placenta was delivered 5 minutes later, without complication. Half an hour after childbirth,
however, Mrs. B. reports that she has heavy vaginal bleeding.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. B., and why?
   ● Mrs. B. should be told what is going to be done and listened to carefully. In addition, her
     questions should be answered in a calm and reassuring manner.
   ● At the same time, a rapid assessment should be done to check for signs of shock (rapid, weak
     pulse, systolic blood pressure less than 90 mm Hg, pallor and sweating, rapid breathing,
     confusion).
   ● The placenta should be checked thoroughly for completeness.

2. What particular aspects of Mrs. B.’s physical examination will help you make a
diagnosis immediately or identify her problems/needs, and why?
   ● Mrs. B.’s uterus should be checked immediately to see whether it is contracted. If the uterus
     is contracted and firm, the most likely cause of bleeding is genital trauma. If the uterus is not
     contracted and the placenta is complete, the most likely cause of bleeding is an atonic uterus.
     The most important causes of bleeding can be suspected by palpating the uterus.
   ● Her perineum, vagina and cervix should be examined carefully for tears.

3. What screening procedures/laboratory tests will you include (if available) in your
assessment of Mrs. B., and why?
   ● None at this stage.

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

   ● Mrs. B.’s pulse rate is 88 beats/minute, her blood pressure is 110/80 mm Hg, her respiration
     rate is 18 breaths/minute and her temperature is 37º C.
   ● Her uterus is firm and well contracted. The placenta is complete.
   ● She has no perineal trauma. Examination of the vagina and cervix is difficult because she
     continues to have heavy vaginal bleeding; therefore, tears of the cervix and vagina have not
     yet been ruled out.
4. Based on these findings, what is Mrs. B.’s diagnosis, and why?

- Mrs. B.’s symptoms and signs (e.g., immediate postpartum hemorrhage, placenta complete, uterus well contracted) are consistent with genital trauma.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?

- An IV should be started using a large bore needle to replace fluid loss, using Ringer’s lactate or normal saline.
- A careful speculum examination of the vagina and cervix should be conducted, without delay, as tears of either the cervix and/or the vagina are the most likely cause of Mrs. B.’s bleeding.
- Any tears should be repaired immediately.
- Mrs. B.’s vital signs and fluid intake and output should be monitored.
- Her uterus should also be checked to make sure that it remains firm and well-contracted.
- Blood should be drawn for hemoglobin and cross-matching, and blood for transfusion should be made available as soon as possible, in the event that it is needed.
- The steps taken to manage the complication should be explained to Mrs. B. She should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

One hour after childbirth, Mrs. B. has a cervical tear repaired.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?

- Mrs. B.’s vital signs and blood loss should continue to be monitored, every 15 minutes for 1 hour, then every 30 minutes for 1 hour, then every 4 hours for 24 hours. Her uterus should be checked to make sure that it remains firm and well contracted. In addition, she should be encouraged to breastfeed her newborn.
- Twenty-four hours after the bleeding has stopped, a hemoglobin and hematocrit should be done to check for anemia:
  - If Mrs. B.’s hemoglobin is below 7 g/dL, or her hematocrit is below 20% (indicating severe anemia), she should be given ferrous sulfate or ferrous fumarate 120 mg by mouth plus folic acid 400 µg by mouth once daily for 3 months. After 3 months, she should continue with ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months. A blood transfusion is not needed if her vital signs are stable and no further bleeding occurs.
  - If Mrs. B.’s hemoglobin is between 7–11 g/dL, she should be given ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months.
The steps taken for continuing management of the complication should be explained to Mrs. B. She should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.

Mrs. B. should remain at the health center for an additional 24 hours, and before discharge counseling should be provided about danger signs in the postpartum period (bleeding, fever, headache, blurred vision) and about compliance with iron/folic acid treatment and the inclusion in her diet of locally available foods rich in iron. In addition, counseling about breastfeeding and newborn care should be provided.

REFERENCE

ROLE PLAY: COMMUNICATING ABOUT POSTPARTUM COMPLICATIONS

DIRECTIONS

The facilitator/teacher will select three learners to perform the following roles: skilled provider, postpartum patient and support person. The three learners participating in the role play should take a few minutes to prepare for the activity by reading the background information provided below. The remaining learners, who will observe the role play, should at the same time read the background information.

The purpose of the role play is to provide an opportunity for learners to appreciate the importance of good interpersonal communication skills when providing care for a woman who experiences a postpartum complication.

PARTICIPANT ROLES

Provider: The provider is an experienced midwife who has good interpersonal communication skills.

Patient: Mrs. A. is 20 years old. She gave birth at home 2 hours ago.

Support person: Village traditional birth attendant (TBA) who attended Mrs. A.’s birth.

SITUATION

Mrs. A. has been brought to the health center by the TBA because she has been bleeding heavily since childbirth 2 hours ago. The duration of labor was 12 hours and the TBA reports that there were no complications. The midwife has assessed Mrs. A. and treated her for shock and atonic uterus. Although the bleeding has decreased since Mrs. A. first arrived at the health center, her uterus is not well contracted, despite fundal massage and the administration of oxytocin. Mrs. A., who is very frightened, must be transferred to the district hospital for further management. The TBA is anxious and feels guilty about Mrs. A.’s condition. The midwife must explain the situation to Mrs. A. and the TBA and attempt to provide emotional support and reassurance as preparations are made for transfer.

FOCUS OF THE ROLE PLAY

The focus of the role play is the interpersonal interaction among the midwife, Mrs. A. and the TBA, and the appropriateness of the information provided and the emotional support and reassurance offered.

DISCUSSION QUESTIONS

The teacher should use the following questions to facilitate discussion after the role play:
1. How did the midwife explain the situation to Mrs. A. and the TBA and the need to transfer Mrs. A. to the district hospital?

2. How did the midwife demonstrate emotional support and reassurance during her interaction with Mrs. A. and the TBA?

3. What verbal/nonverbal behaviors did Mrs. A. and the TBA use that would indicate they felt supported and reassured?
ROLE PLAY: COMMUNICATING ABOUT POSTPARTUM COMPLICATIONS—ANSWER KEY

DISCUSSION QUESTIONS

1. How did the midwife explain the situation to Mrs. A. and the TBA and the need to transfer Mrs. A. to the district hospital?

2. How did the midwife demonstrate emotional support and reassurance during her interaction with Mrs. A. and the TBA?

3. What verbal/nonverbal behaviors did Mrs. A. and the TBA use that would indicate they felt supported and reassured?

ANSWERS

The following answers should be used by the teacher to guide discussion after the role play:

1. The midwife should speak in a calm and reassuring manner, using terminology that Mrs. A. will easily understand. Sufficient information should be provided to enable Mrs. A. and the TBA to understand the situation, the need for transfer to the district hospital and what to expect once there.

2. The midwife should listen and express understanding and acceptance of Mrs. A.’s feelings about her situation. For example, nonverbal behaviors, such as a squeeze of the hand or a look of concern (depending on the culture), could be enormously helpful in providing emotional support and reassurance for Mrs. A. The midwife should interact with the TBA in a similar manner to reassure her and help allay feelings of guilt.

3. If the midwife demonstrates the verbal and nonverbal behaviors mentioned above, Mrs. A. is less likely to be frightened and more likely to accept the need for transfer to the district hospital. The TBA should feel reassured and therefore be in a better position to provide support for Mrs. A.
LEARNING GUIDE: REPAIR OF VAGINAL SULCUS, PERIURETHRAL and CERVICAL TEARS
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task or skill not performed by learner during evaluation by facilitator/teacher

---

**LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS**

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman what is going to be done and encourage her to ask questions.</td>
<td></td>
</tr>
<tr>
<td>3. Listen to what the woman has to say.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the woman has no allergies to lignocaine or related drugs.</td>
<td></td>
</tr>
<tr>
<td>5. Provide emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>6. Put on personal protective equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>REPAIR OF VAGINAL SULCUS TEAR (and PERINEAL TEAR)</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available).</td>
<td></td>
</tr>
<tr>
<td>2. Ask an assistant to direct a strong light onto the woman’s perineum.</td>
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</tr>
<tr>
<td>3. Cleanse perineum with antiseptic solution.</td>
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</tr>
<tr>
<td>4. Draw 10 ml of 0.5% lignocaine into a syringe.</td>
<td></td>
</tr>
<tr>
<td>5. Place two fingers into vagina along proposed incision line.</td>
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</tr>
<tr>
<td>6. Insert needle beneath skin for 4–5 cm following same line.</td>
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</tr>
<tr>
<td>7. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>8. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle.</td>
<td></td>
</tr>
<tr>
<td>9. Wait 2 minutes and then pinch incision site with forceps.</td>
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</tr>
<tr>
<td>10. If the woman feels the pinch, wait 2 more minutes and then retest.</td>
<td></td>
</tr>
<tr>
<td>11. Using 2/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy.</td>
<td></td>
</tr>
<tr>
<td>12. Use a continuous suture from apex downward to level of vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>13. At opening of vagina, bring together cut edges.</td>
<td></td>
</tr>
<tr>
<td>14. Bring needle under vaginal opening and out through incision and tie.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
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<tr>
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</tr>
<tr>
<td>15. If there is a sulcus tear on the other side of the vagina, repeat steps 11–14.</td>
<td></td>
</tr>
<tr>
<td>16. If there is a perineal wound, put the needle through the vaginal mucosa behind the hymenal ring and bring the needle out at the top of the perineal wound.</td>
<td></td>
</tr>
<tr>
<td>17. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
<td></td>
</tr>
<tr>
<td>18. Use interrupted or subcuticular sutures to bring skin edges together.</td>
<td></td>
</tr>
<tr>
<td>19. Wash perineal area with antiseptic, pat dry, and place a sterile sanitary pad over the vulva and perineum.</td>
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</tr>
</tbody>
</table>

**REPAIR OF PERIURETHRAL TEAR**

1. Place a catheter in the bladder. This will help identify the urethra and keep from accidentally sewing the urethra shut or damaging it.

2. Draw 10 ml of 0.5% lignocaine into a syringe.

3. Position tissue edges together. (Approximate edges.)

4. Insert needle (1 cm needle) from the bottom and slightly to one side of the tear to the top of the tear.

5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.

6. Inject lignocaine as you withdraw.

7. Wait 2 minutes and then pinch site with forceps to check for anesthetic effect.

8. Place interrupted sutures the length of the tear, spaced approximately 1 cm apart for the full length of the tear.

9. If blood continues to ooze from the laceration, press gauze firmly over the wound for 1–2 minutes, until bleeding stops.

**REPAIR OF CERVICAL TEAR**

1. Clean the vagina and cervix with antiseptic solution.

2. Grasp both sides of the cervix using ring or sponge forceps (one forceps for each side of tear). Do not use toothed instruments as these can cut the cervix and cause more bleeding.

3. Place the handles from both forceps in one hand. Pull the handles toward you so that you can more clearly see the tear.

3. Place the first suture 1 cm above the apex of the tear and tie.

4. Close with a continuous suture, including the whole thickness of the cervix each time the suture needle is inserted.

5. If a long section of the cervix is tattered, under-run it with a continuous suture.

**POST-PROCEDURE TASKS**

1. Dispose of waste materials (e.g., blood-contaminated swabs) in a leak-proof container or plastic bag.

2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.
## LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tbody>
<tr>
<td>3. Decontaminate or dispose of syringe and needle:</td>
<td></td>
</tr>
<tr>
<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✓” in case box if step/task is performed satisfactorily, an “✗” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by learner during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>Participant</th>
<th>Date Observed</th>
</tr>
</thead>
<tbody>
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<p>| CHECKLIST FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS |
| (Some of the following steps/task should be performed simultaneously.) |</p>
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<tr>
<th>STEP/TASK</th>
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**GETTING READY**
1. Prepare the necessary equipment.
2. Tell the woman what is going to be done and encourage her to ask questions.
3. Listen to what the woman has to say.
4. Make sure that the woman has no allergies to lignocaine or related drugs.
5. Provide emotional support and reassurance, as feasible.
6. Put on personal protective equipment

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

REPAIR OF VAGINAL SULCUS TEAR (and PERINEAL TEAR)
1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available).
2. Ask an assistant to direct a strong light onto the woman’s perineum.
3. Cleanse perineum with antiseptic solution.
4. Draw 10 ml of 0.5% lignocaine into a syringe.
5. Insert needle beneath skin for 4–5 cm with two fingers guiding the proposed line.
6. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.
7. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle.
8. Wait 2 minutes and then pinch incision site with forceps, waiting 2 minutes more, retesting, and injecting additional lignocaine if she then still feels pinch.
9. Using 2/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy, and suture continuously downward to the vaginal opening.
10. At opening of vagina, bring together cut edges.
11. Bring needle under vaginal opening and out through incision and tie.
12. If there is a sulcus tear on the other side of the vagina, repeat steps 11–14.
### Checklist for Repair of Vaginal Sulus, Periurethral and Cervical Tears

(Some of the following steps/task should be performed simultaneously.)

<table>
<thead>
<tr>
<th>Step/Task</th>
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</tr>
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<tbody>
<tr>
<td>13. If there is a perineal wound, put the needle through the vaginal mucosa behind the hymenal ring and bring the needle out at the top of the perineal wound.</td>
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<tr>
<td>14. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
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<td>15. Use interrupted or subcuticular sutures to bring skin edges together.</td>
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<td>16. Wash perineal area with antiseptic, pat dry and place a sterile sanitary pad over the vulva and perineum.</td>
<td></td>
</tr>
</tbody>
</table>

#### Skill/Activity Performed Satisfactorily

**Repair of Periurethral Tear**

1. Place a catheter in the bladder.
2. Draw 10 ml of 0.5% lignocaine into a syringe.
3. Position tissue edges together. (Approximate edges.)
4. Insert needle (1 cm needle) from the bottom and slightly to one side of the tear to the top of the tear.
5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.
6. Inject lignocaine as you withdraw.
7. Wait 2 minutes and then pinch site with forceps to check for anesthetic effect, retesting and injecting additional lignocaine if necessary.
8. Place interrupted sutures the length of the tear, spaced approximately 1 cm apart for the full length of the tear.

**Skill/Activity Performed Satisfactorily**

**Repair of Cervical Tear**

1. Clean the vagina and cervix with antiseptic solution.
2. Grasp both sides of the cervix using ring or sponge forceps (one forceps for each side of tear) and pull to more clearly see tear.
3. Close with a continuous suture, including the whole thickness of the cervix each time the suture needle is inserted.
4. If a long section of the cervix is tattered, under-run it with a continuous suture.

**Skill/Activity Performed Satisfactorily**

### Post-Procedure Tasks

1. Dispose of waste materials (e.g., blood-contaminated swabs) in a leak-proof container or plastic bag.
## CHECKLIST FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS
(Some of the following steps/task should be performed simultaneously.)

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<tr>
<td>2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.</td>
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<td>3. Decontaminate or dispose of syringe and needle:</td>
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<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
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<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container.</td>
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</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out:</td>
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<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
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<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
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</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
LEARNING GUIDE: MANUAL REMOVAL OF PLACENTA
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

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<td><strong>GETTING READY</strong></td>
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</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
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</tr>
<tr>
<td>2. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>3. Provide continual emotional support and reassurance, as feasible.</td>
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</tr>
<tr>
<td>4. Start IV of normal saline or Ringer’s Lactate.</td>
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<tr>
<td>5. Ask the woman to empty her bladder or insert a catheter, if necessary.</td>
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<tr>
<td>6. Give anesthesia (IV pethidine and diazepam, or ketamine).</td>
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<tr>
<td>7. Give a single dose of prophylactic antibiotics:</td>
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<tr>
<td>• Ampicillin 2 g IV PLUS metronidazole 500 mg IV, OR</td>
<td></td>
</tr>
<tr>
<td>• Cefazolin 1 g IV PLUS metronidazole 500 mg IV</td>
<td></td>
</tr>
<tr>
<td>8. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>MANUAL REMOVAL OF PLACENTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands and forearms thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands. (Note: elbow-length gloves should be used, if available.)</td>
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</tr>
<tr>
<td>3. Place high-level disinfected drape beneath the woman’s buttocks.</td>
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<tr>
<td>4. Hold the umbilical cord with a clamp.</td>
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</tr>
<tr>
<td>5. Pull the cord gently until it is parallel to the floor and hold firmly.</td>
<td></td>
</tr>
<tr>
<td>6. Place the fingers of the other hand into the vagina and into the uterine cavity, following the direction of the cord until the placenta is located. Let go of the cord and use the abdominal hand to support/stabilization of the fundus.</td>
<td></td>
</tr>
<tr>
<td>7. Move the fingers of the hand in the uterus laterally until the edge of the placenta is located (while continuing to provide counter-traction.)</td>
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</tr>
<tr>
<td>8. Keeping the fingers tightly together, ease the edge of the hand gently between the placenta and the uterine wall, with the palm facing the placenta.</td>
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</tbody>
</table>
### LEARNING GUIDE FOR MANUAL REMOVAL OF PLACENTA
(Many of the following steps/tasks should be performed simultaneously.)

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<tbody>
<tr>
<td>9. Gradually move the hand back and forth in a smooth lateral motion until the whole placenta is separated from the uterine wall:</td>
<td></td>
</tr>
<tr>
<td>• If the placenta does not separate from the uterine wall by gentle lateral movement of the fingers at the line of cleavage, suspect placenta accreta and arrange for surgical intervention.</td>
<td></td>
</tr>
<tr>
<td>10. When the placenta is completely separated:</td>
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</tr>
<tr>
<td>• Palpate the inside of the uterine cavity to ensure that all placental tissue has been removed.</td>
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</tr>
<tr>
<td>• Slowly withdraw the hand from the uterus bringing the placenta with it.</td>
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</tr>
<tr>
<td>• Provide counter-traction to the uterus by pushing it above the symphysis pubis in the opposite direction of the hand that is being withdrawn.</td>
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</tr>
<tr>
<td>• Immediately after removal of placenta massage the uterus through the abdomen.</td>
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</tr>
<tr>
<td>11. Give oxytocin 20 units in 1 L IV fluid (normal saline or Ringer’s lactate) at 60 drops/minute.</td>
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</tr>
<tr>
<td>12. Have an assistant massage the fundus to encourage atonic uterine contraction.</td>
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</tr>
<tr>
<td>13. If there is continued heavy bleeding, give ergometrine 0.2 mg IM or give prostaglandins.</td>
<td></td>
</tr>
<tr>
<td>14. Examine the uterine surface of the placenta to ensure that it is complete.</td>
<td></td>
</tr>
<tr>
<td>15. Examine the woman carefully and repair any tears to the cervix or vagina, or repair episiotomy.</td>
<td></td>
</tr>
<tr>
<td>16. Clean perineum and place clean pad against perineum.</td>
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</tbody>
</table>

### POSTPROCEDURE TASKS

<table>
<thead>
<tr>
<th>TASK</th>
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</tr>
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<tbody>
<tr>
<td>1. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place them in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>2. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
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</tr>
<tr>
<td>3. Monitor vaginal bleeding and take the woman’s vital signs:</td>
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<tr>
<td>• Every 15 minutes for 1 hour</td>
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<tr>
<td>• Then every 30 minutes for 2 hours</td>
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<tr>
<td>4. Make sure that the uterus is firmly contracted.</td>
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</tbody>
</table>
CHECKLIST: MANUAL REMOVAL OF PLACENTA
(To be used by the Facilitator/Teacher at the end of the module)

Place a “Τ” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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**Not Observed**: Step or task not performed by learner during evaluation by facilitator/teacher

| Participant ____________________________________ Date Observed __________________ |
| --- | --- |

<p>| CHECKLIST FOR MANUAL REMOVAL OF PLACENTA  |</p>
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<table>
<thead>
<tr>
<th>STEP/TASK</th>
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</thead>
</table>

### GETTING READY
1. Prepare the necessary equipment.
2. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.
3. Provide continual emotional support and reassurance, as feasible.
4. Ask the woman to empty her bladder or insert a catheter.
5. Give anesthesia.
7. Put on personal protective barriers.

### SKILL/ACTIVITY PERFORMED SATISFACTORILY

<table>
<thead>
<tr>
<th>MANUAL REMOVAL OF PLACENTA</th>
</tr>
</thead>
</table>

1. Wash hands and forearms thoroughly and put on high-level disinfected or sterile surgical gloves (use elbow-length gloves, if available).
2. Hold the umbilical cord with a clamp and pull the cord gently.
3. Place the fingers of one hand into the uterine cavity and locate the placenta.
4. Provide counter-traction abdominally above the symphysis pubis.
5. Move the hand back and forth in a smooth lateral motion until the whole placenta is separated from the uterine wall.
6. Withdraw the hand from the uterus, bringing the placenta with it while continuing to provide counter-traction abdominally.
7. Give oxytocin in IV fluid.
8. Have an assistant massage the fundus to encourage atonic uterine contraction.
9. If there is continued heavy bleeding, give ergometrine by IM injection or prostaglandins.
10. Examine the uterine surface of the placenta to ensure that it is complete.
CHECKLIST FOR MANUAL REMOVAL OF PLACENTA
(Many of the following steps/tasks should be performed simultaneously.)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>11.</td>
<td>Examine the woman carefully and repair any tears to the cervix or vagina or repair episiotomy.</td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORYILY**

**POST-PROCEDURE TASKS**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Remove gloves and discard them in a leak-proof container or plastic bag if disposing of or decontaminate them in 0.5% chlorine solution if reusing.</td>
</tr>
<tr>
<td>2.</td>
<td>Wash hands thoroughly.</td>
</tr>
<tr>
<td>3.</td>
<td>Monitor vaginal bleeding, take the woman’s vital signs and make sure that the uterus is firmly contracted.</td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORYILY**
LEARNING GUIDE: INTERNAL BIMANUAL COMPRESSION OF THE UTERUS
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

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<tr>
<td>1. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>2. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>3. Put on personal protective barriers.</td>
<td></td>
</tr>
<tr>
<td><strong>BIMANUAL COMPRESSION</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly with soap and water and dry with a clean cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>2. Put high-level disinfected or sterile surgical gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Clean the vulva and perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>4. Insert one hand into the vagina and form a fist.</td>
<td></td>
</tr>
<tr>
<td>5. Place the fist into the anterior vaginal fornix and apply pressure against the anterior wall of the uterus.</td>
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</tr>
<tr>
<td>6. Place the other hand on the abdomen behind the uterus.</td>
<td></td>
</tr>
<tr>
<td>7. Press the abdominal hand deeply into the abdomen and apply pressure against the posterior wall of the uterus.</td>
<td></td>
</tr>
<tr>
<td>8. Maintain compression until bleeding is controlled and the uterus contracts.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning them inside out.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place them in a leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>2. Wash hands thoroughly with soap and water and dry with a clean cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>3. Monitor vaginal bleeding and take the woman’s vital signs:</td>
<td></td>
</tr>
<tr>
<td>• Every 15 minutes for 1 hour</td>
<td></td>
</tr>
<tr>
<td>• Then every 30 minutes for 2 hours.</td>
<td></td>
</tr>
<tr>
<td>4. Make sure that the uterus is firmly contracted.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: INTERNAL BIMANUAL COMPRESSION OF THE UTERUS
(To be used by the Facilitator/Teacher at the end of the module)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by learner during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>Participant</th>
<th>Date Observed</th>
</tr>
</thead>
</table>

| CHECKLIST FOR INTERNAL BIMANUAL COMPRESSION OF THE UTERUS |
| (Many of the following steps/tasks should be performed simultaneously.) |

### GETTING READY

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>2. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td>3. Put on personal protective barriers.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### BIMANUAL COMPRESSION

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wash hands thoroughly and put on high-level disinfected or sterile surgical gloves.</td>
<td></td>
</tr>
<tr>
<td>2. Clean vulva and perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>3. Insert fist into anterior vaginal fornix and apply pressure against the anterior wall of the uterus.</td>
<td></td>
</tr>
<tr>
<td>4. Place other hand on abdomen behind uterus, press the hand deeply into the abdomen and apply pressure against the posterior wall of the uterus.</td>
<td></td>
</tr>
<tr>
<td>5. Maintain compression until bleeding is controlled and the uterus contracts.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

### POSTPROCEDURE TASKS

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remove gloves and discard them in leak-proof container or plastic bag if disposing of or decontaminate them in 0.5% chlorine solution if reusing.</td>
<td></td>
</tr>
<tr>
<td>2. Wash hands thoroughly.</td>
<td></td>
</tr>
<tr>
<td>3. Monitor vaginal bleeding, take the woman’s vital signs and make sure that the uterus is firmly contracted.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
LEARNING GUIDE: COMPRESSION OF THE ABDOMINAL AORTA
(To be used by Participants)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by learner during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>LEARNING GUIDE FOR COMPRESSION OF THE ABDOMINAL AORTA</th>
<th>(Some of the following steps/tasks should be performed simultaneously.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>2. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> Steps 1 and 2 should be implemented at the same time as the following steps.</td>
<td></td>
</tr>
<tr>
<td><strong>COMPRESSION OF THE ABDOMINAL AORTA</strong></td>
<td></td>
</tr>
<tr>
<td>1. Place a closed fist just above the umbilicus and slightly to the left.</td>
<td></td>
</tr>
<tr>
<td>2. Apply downward pressure over the abdominal aorta directly through the abdominal wall.</td>
<td></td>
</tr>
<tr>
<td>3. With the other hand, palpate the femoral pulse to check the adequacy of compression:</td>
<td></td>
</tr>
<tr>
<td>• If the pulse is palpable during compression, the pressure is inadequate;</td>
<td></td>
</tr>
<tr>
<td>• If the pulse is not palpable during compression, the pressure is adequate.</td>
<td></td>
</tr>
<tr>
<td>4. Maintain compression until bleeding is controlled.</td>
<td></td>
</tr>
<tr>
<td><strong>POST-PROCEDURE TASKS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Monitor vaginal bleeding and take the woman’s vital signs:</td>
<td></td>
</tr>
<tr>
<td>• Every 15 minutes for 1 hour;</td>
<td></td>
</tr>
<tr>
<td>• Then every 30 minutes for 2 hours.</td>
<td></td>
</tr>
<tr>
<td>2. Palpate the uterine fundus to ensure that the uterus remains firmly contracted.</td>
<td></td>
</tr>
</tbody>
</table>
### CHECKLIST: COMPRESSION OF THE ABDOMINAL AORTA
(To be used by the Facilitator/Teacher at the end of the module)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task not performed by participant during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>Participant ______________________</th>
<th>Date Observed ______________________</th>
</tr>
</thead>
</table>
| **CHECKLIST FOR COMPRESSION OF THE ABDOMINAL AORTA**  
(Some of the following steps/tasks should be performed simultaneously.) |

#### GETTING READY

1. Tell the woman what is going to be done, listen to her, and respond attentively to her questions and concerns.

2. Provide continual emotional support and reassurance, as feasible.

**SKILL/ACTIVITY PERFORMED SATISFACTORYLY**

#### COMPRESSION OF THE ABDOMINAL AORTA

1. Place a closed fist just above the umbilicus and slightly to the left.

2. Apply downward pressure over the abdominal aorta directly through the abdominal wall.

3. With the other hand, palpate the femoral pulse to check the adequacy of compression.

4. Maintain compression until bleeding is controlled.

**SKILL/ACTIVITY PERFORMED SATISFACTORYLY**

#### POST-PROCEDURE TASKS

1. Monitor vaginal bleeding, take the woman’s vital signs, and ensure the uterus is firmly contracted.

**SKILL/ACTIVITY PERFORMED SATISFACTORYLY**
## SKILLS PRACTICE SESSION: INTERNAL BIMANUAL COMPRESSION, MANUAL REMOVAL OF PLACENTA, AORTIC COMPRESSION, REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL LACERATION

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice those psychomotor skills necessary to manage bleeding after childbirth and to achieve competency in these skills. | This activity should be conducted in a simulated setting. | - Childbirth simulator  
- Pieces of foam for repair or 1st and 2nd degree lacerations  
- Needles and syringes  
- High-level disinfected or surgical gloves  
- Gauntlet gloves  
- Personal protective barriers  
- Episiotomy/Laceration Repair kit/pack  
- 0.5% chlorine solution and receptacle for decontamination  
- Leak-proof container or plastic bag |
| Learners should review Learning Guides for: Bimanual Compression, Manual Removal of Placenta, Aortic Compression, Repair of 1st and 2nd degree Laceration before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. Under the guidance of the facilitator/teacher, learners should then work in pairs and practice the steps/tasks in each individual Learning Guide and observe each other’s performance; while one learner performs the skill, the second learner should use the relevant section of each Learning Guide to observe performance. Learners should then reverse roles. | Learning Guides: Bimanual Compression, Manual Removal of Placenta, Aortic Compression, Repair of 1st and 2nd degree Laceration  
Learning Guides: Bimanual Compression, Manual Removal of Placenta, Aortic Compression, Repair of 1st and 2nd degree Laceration |
| Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting. | | Checklists: Bimanual Compression, Manual Removal of Placenta, Aortic Compression, Repair of 1st and 2nd degree Laceration |
CLINICAL SIMULATION FOR THE MANAGEMENT OF VAGINAL BLEEDING AFTER CHILDBIRTH

**Purpose:** The purpose of this activity is to provide a simulated experience for participants to practice problem-solving and decision-making skills in the management of bleeding after childbirth, with emphasis on thinking quickly and reacting (intervening) rapidly.

**Instructions:** The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a hospital, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One participant should play the role of patient and a second participant the role of skilled provider. Other participants may be called on to assist the provider.
- The trainer will give the participant playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.
- The participant will be expected to think quickly and react (intervene) rapidly when the trainer provides information and asks questions. Key reactions/responses expected from the participant are provided in the right-hand column of the chart below.
- Procedures such as starting an IV and bimanual examination should be role played, using the appropriate equipment.
- Initially, the trainer and participant will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the participant’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

**Resources:** Learning Guides for Bimanual Compression, sphygmomanometer, stethoscope, equipment for starting an IV infusion, oxygen cylinder, gauge, self-inflating mask, syringes and vials, vaginal speculum, sponge forceps, high-level disinfected or sterile surgical gloves.
<table>
<thead>
<tr>
<th>SCENARIO</th>
<th>KEY REACTIONS/RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Information provided and questions asked by the facilitator/trainer)</strong></td>
<td><strong>(Expected from participants)</strong></td>
</tr>
</tbody>
</table>
| **1.** Mrs. B. is 24 years old and has just given birth to a healthy baby girl after 7 hours of labor. Active management of the third stage was performed, and the placenta and membranes were complete. The midwife who attended the birth left the hospital at the end of her shift. Approximately 30 minutes later, a nurse rushes to tell you that Mrs. B. is bleeding profusely.  
• What will you do? | • Shouts for help to urgently mobilize all available personnel  
• Makes a rapid evaluation of Mrs. B.’s general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and temperature of skin  
• Explains to Mrs. B. what is going to be done, listens to her and responds attentively to her questions and concerns |

| **2.** On examination, you find that Mrs. B.’s pulse is 120 beats/minute and weak and her blood pressure is 86/60 mm Hg. Her skin is not cold and clammy.  
• What is Mrs. B.’s problem?  
• What will you do now? | • States that Mrs. B. is in shock from postpartum bleeding  
• Palpates the uterus for firmness  
• Asks one of the staff that responded to her/his shout for help to start an IV infusion, using a large-bore cannula and normal saline or Ringer’s lactate at a rate of 1 L in 15–20 minutes with 10 units oxytocin  
• While starting the IV, collects blood for appropriate tests (hemoglobin, blood typing and cross matching, and bedside clotting test for coagulopathy) |

**Discussion Question 1:** How do you know when a woman is in shock?  
• Expected Responses: Pulse greater than 110 beats/minute; systolic blood pressure less than 90 mm Hg; cold, clammy skin; pallor; respiration rate greater than 30 breaths/minute; anxious and confused or unconscious |

| **3.** You find that Mrs. B.’s uterus is soft and not contracted.  
• What will you do now? | • Massages the uterus to expel blood and blood clots and stimulate a contraction  
• Starts oxygen at 6–8 L/minute  
• Catheterizes bladder  
• Covers Mrs. B. to keep her warm  
• Elevates legs  
• Continues to monitor (or has assistant monitor) blood loss, pulse and blood pressure |

| **4.** After 5 minutes, Mrs. B.’s uterus is well contracted, and the bleeding has slowed to a small occasional trickle.  
• What will you do now? | • Continue to monitor BP, pulse, uterine firmness and blood loss every 15 minutes for 2 hours, and urine output every hour.  
• Asks a staff members assisting to locate placenta and examines for missing pieces |
### Scenario

On further examination of the placenta, you find that it is complete. On examination of Mrs. B.’s cervix, vagina and perineum, you find a cervical tear. She continues to bleed heavily.

- What will you do now?

### Key Reactions/Responses

- Prepares to repair the cervical tear
- Tells Mrs. B. what is happening, listens to her concerns and provides reassurance
- Has a staff member assisting check Mrs. B.’s vital signs

### Discussion Question 2

What would you have done if examination of the placenta had shown a missing piece (placenta incomplete)?

**Expected Responses:**

- Explain the problem to Mrs. B. and provide reassurance.
- Give pethidine and diazepam IV slowly or use ketamine.
- Give a single dose of prophylactic antibiotics (ampicillin 2 g IV plus metronidazole 500 mg IV OR cefazolin 1 g IV plus metronidazole 500 mg IV).
- Use sterile or high-level disinfected gloves to feel inside the uterus for placental fragments and remove with hand, ovum forceps or large curette.

### Discussion following clinical simulation may ask: what was the benefit of being prepared before the emergency? What could have been done better? What is the importance of being able to access emergency equipment/supplies at all time?
KNOWLEDGE ASSESSMENT: VAGINAL BLEEDING AFTER CHILDBIRTH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. What measures can be taken to prevent postpartum hemorrhage?
   a. Active management of the third stage of labor
   b. Reducing length of second stage of labor by encouraging the woman to push during active second stage
   c. Avoiding perineal trauma
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Management of postpartum hemorrhage caused by an atonic uterus involves
   a. Massaging the uterus through the abdominal wall to expel clots and cause uterine contraction
   b. Helping the woman to urinate or catheterizing the bladder
   c. Giving an oxytocic drug
   d. All of the above

3. Internal bimanual compression of the uterus
   a. Does not require use of sterile or HLD gloves since it is an emergency situation and the hand does not enter the uterus
   b. Requires that pressure be applied on the anterior wall of the uterus only
   c. Requires that compression be maintained until bleeding is controlled and the uterus contracts
   d. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Vaginal bleeding in excess of 500 mL after childbirth is defined as postpartum hemorrhage.  

5. Continuous slow bleeding or sudden bleeding following childbirth is an emergency requiring early and aggressive intervention.

6. Immediate postpartum hemorrhage is always due to atonic uterus.

7. A complete placenta and a contracted uterus, accompanied by immediate postpartum hemorrhage, suggest that tears of the cervix, vagina or perineum may be present.
8. Delayed postpartum hemorrhage is always characterized by light, irregular vaginal bleeding.

9. Active management of the third stage of labor should be practiced on all women because it reduces the incidence of postpartum hemorrhage due to uterine atony.

10. Bimanual compression of the uterus is the first step in management of atonic uterus.

11. When performing abdominal aortic compression to control postpartum hemorrhage, the point of compression is just below and slightly to the right of the umbilicus.

12. If a retained placenta is undelivered after 30 minutes of oxytocin stimulation and the uterus is contracted, cord traction and fundal pressure should be attempted.

13. Antibiotics are useful in a case of delayed postpartum hemorrhage only if the woman has a fever.
KNOWLEDGE ASSESSMENT: VAGINAL BLEEDING AFTER CHILDBIRTH—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. What measures can be taken to prevent postpartum hemorrhage?
   a. Active management of the third stage of labor
   b. Reducing length of second stage of labor by encouraging the woman to push during active second stage
   c. Avoiding perineal trauma
   d. a) and b)
   e. a) and c)
   f. All of the above

2. Management of postpartum hemorrhage caused by an atonic uterus involves:
   a. Massaging the uterus through the abdominal wall to expel clots and cause uterine contraction
   b. Helping the woman to urinate or catheterizing the bladder
   c. Giving an oxytocic drug
   d. All of the above

3. Bimanual compression of the uterus:
   a. Does not require use of sterile or HLD gloves since it is an emergency situation and the hand does not enter the uterus
   b. Requires that pressure be applied on the anterior wall of the uterus only
   c. Requires that compression be maintained until bleeding is controlled and the uterus contracts
   d. All of the above

 Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Vaginal bleeding in excess of 500 mL after childbirth is defined as postpartum hemorrhage.  TRUE

5. Continuous slow bleeding or sudden bleeding following childbirth is an emergency requiring early and aggressive intervention.  TRUE

6. Immediate postpartum hemorrhage is always due to atonic uterus.  FALSE

7. A complete placenta and a contracted uterus, accompanied by immediate postpartum hemorrhage, suggest that tears of the cervix, vagina or perineum may be present.  TRUE
8. Delayed postpartum hemorrhage is always characterized by light, irregular vaginal bleeding. **FALSE**

9. Active management of the third stage of labor should be practiced on all women because it reduces the incidence of postpartum hemorrhage due to uterine atony. **TRUE**

10. Bimanual compression of the uterus is the first step in management of atonic uterus. **FALSE**

11. When performing abdominal aortic compression to control postpartum hemorrhage, the point of compression is just below and slightly to the right of the umbilicus. **FALSE**

12. If a retained placenta is undelivered after 30 minutes of oxytocin stimulation and the uterus is contracted, cord traction and fundal pressure should be attempted. **FALSE**

13. Antibiotics are useful in a case of delayed postpartum hemorrhage only if the woman has a fever. **FALSE**
SUPPLEMENTARY MODULE 18.1: BEST PRACTICES IN INSPECTION AND REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS—SESSION PLAN

MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Inspection and Repair of Vaginal Sulcus, Periurethral and Cervical Tears</td>
<td>240 min</td>
</tr>
</tbody>
</table>

SESSION OBJECTIVES

By the end of this session, participants will be able to:
- Identify vaginal sulcus, periurethral and cervical tears
- Repair vaginal sulcus, periurethral and cervical tears
- Counsel the mother about care after repair of vaginal, periurethral or cervical tears

Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: Best practices in inspection and repair of vaginal sulcus, periurethral and cervical tears (20 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use questions and discussion throughout presentation as indicated on slides.</td>
</tr>
<tr>
<td>Cover the following:</td>
</tr>
<tr>
<td>- Objectives of session</td>
</tr>
<tr>
<td>- Definition of sulcus tear, periurethral tear and cervical tear</td>
</tr>
<tr>
<td>- Supplies needed for repair</td>
</tr>
<tr>
<td>- Technique for repair of vaginal sulcus tear</td>
</tr>
<tr>
<td>- Technique for repair of periurethral tear</td>
</tr>
<tr>
<td>- Technique for repair of cervical tear</td>
</tr>
<tr>
<td>- Counsel of woman following repair</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills demonstration and practice: Repair of vaginal sulcus, periurethral and cervical tears (150 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demonstration</strong> (30 min)</td>
</tr>
<tr>
<td>Distribute learning guides so that participants can follow steps of demonstration.</td>
</tr>
<tr>
<td><strong>Practice</strong> (120 min)</td>
</tr>
<tr>
<td>Divide participants into three groups to practice each skill with a model. One practices while others in group follow with learning guide. Participants rotate within small group until all have practiced. They then rotate to another skill station.</td>
</tr>
</tbody>
</table>

[Skills demonstration and practice sessions will be divided with a break (10 min) or lunch (45 min) at appropriate time]

- Session on Best Practices in Care of the Newborn may be inserted into this session prior to skills demonstration and practice since Immediate Newborn Care is part of Normal Labor and Childbirth.

Materials/Resources

- Boxlight projector
- PowerPoint presentation OR
  - Overhead projector with transparencies (Handouts of presentations if no electricity)
- Blank partograph forms
- Copy (copies) of exercise
- Copy of Skills Practice Session
- Copies of Learning Guides and Checklists for Active Management of the Third Stage of Labor, Birth with Vacuum Extractor, breech Birth, Episiotomy and Repair
- Large laminated partograph
- Childbirth simulator
- Vacuum extractor
- Newborn for use with vacuum extractor
- Syringes and vials
- High-level disinfected or surgical gloves
- Personal protective barriers
- Delivery kit/pack
- Episiotomy repair set
- Suture material and needles
- 0.5% chlorine solution and receptacle for decontam.
- Leak-proof container or plastic bag
# SKILLS PRACTICE SESSION: REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice repair of vaginal sulcus, periurethral and cervical tears. | This activity should be conducted in a simulated setting. | • Childbirth simulator with baby and placenta  
• Vacuum extractor  
• Pieces of foam for episiotomy and repair  
• Syringes and vial  
• High-level disinfected or surgical gloves  
• Personal protective barriers  
• Delivery kit/pack  
• Episiotomy/Laceration Repair kit/pack  
• 0.5% chlorine solution and receptacle for decontamination  
• Leak-proof container or plastic bag |
| Learners should review Learning Guide for: Repair of Vaginal Sulcus, Periurethral and Cervical Tears before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time. Teacher should show each piece of equipment and explain use.  
Show anatomical landmarks. Facilitator/teacher must explain each step of procedure and any cautions associated with each step. Under the guidance of the facilitator/teacher, learners should then work in pairs and practice the steps/tasks in each individual Learning Guide and observe each other’s performance; while one learner performs the skill, the second learner should use the relevant section of each Learning Guide to observe performance. Learners should then reverse roles. | Learning Guide: Repair of Vaginal Sulcus, Periurethral and Cervical Tears  
Learning Guide: Repair of Vaginal Sulcus, Periurethral and Cervical Tears  
Equipment/materials for vaginal sulcus and periurethral tears: 10 cc syringe with 1½ cc syringe, bottle of 0.5% lignocaine, gauze swabs, needle holder, scissors, pick-up forceps, sponge forceps, 2-0/3-0 chromic or vicryl sutures, antiseptic, sharps container, decontamination container, leak-proof waste container, sterile gloves, goggles, plastic apron  
For cervical tears: 10 cc syringe with 1½ cc syringe, bottle of 0.5% lignocaine, gauze swabs, needle holder, scissors, pick-up forceps, sponge forceps, 0-chromatic sutures, antiseptic, sharps container, decontamination container, leak-proof waste container, sterile gloves, goggles, plastic apron  
Anatomical landmarks: Apex of wound, hymenal ring, mucosa layer of vagina, subcutaneous and subcuticular layers of perineal tissue, deep muscles.  
Checklist: Repair of Vaginal Sulcus, Periurethral and Cervical Tears |

Learners should be able to perform the steps/tasks relevant each skill before skills competency is assessed in a simulated setting.
**LEARNING GUIDE: REPAIR OF VAGINAL SULCUS, PERIURETHRAL and CERVICAL TEARS**

*(To be used by Participants)*

Place a "T" in case box if step/task is performed satisfactorily, an "X" if it is not performed satisfactorily, or N/O if not observed.

**Satisfactory:** Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory:** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed:** Step or task or skill not performed by learner during evaluation by facilitator/teacher

| LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS |
| (Some of the following steps/tasks should be performed simultaneously.) |
| **STEP/TASK** | **CASES** |
| **GETTING READY** | |
| 1. Prepare the necessary equipment. | |
| 2. Tell the woman what is going to be done and encourage her to ask questions. | |
| 3. Listen to what the woman has to say. | |
| 4. Make sure that the woman has no allergies to lignocaine or related drugs. | |
| 5. Provide emotional support and reassurance, as feasible. | |
| 6. Put on personal protective equipment. | |
| **REPAIR OF VAGINAL SULCUS TEAR (and PERINEAL TEAR)** | |
| 1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available). | |
| 2. Ask an assistant to direct a strong light onto the woman’s perineum. | |
| 3. Cleanse perineum with antiseptic solution. | |
| 4. Draw 10 mL of 0.5% lignocaine into a syringe. | |
| 5. Place two fingers into vagina along proposed incision line. | |
| 6. Insert needle beneath skin for 4–5 cm following same line. | |
| 7. Draw back the plunger of syringe to make sure that needle is not in a blood vessel. | |
| 8. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle. | |
| 9. Wait 2 minutes and then pinch incision site with forceps. | |
| 10. If the woman feels the pinch, wait 2 more minutes and then retest. | |
| 11. Using 2/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy. | |
| 12. Use a continuous suture from apex downward to level of vaginal opening. | |
| 13. At opening of vagina, bring together cut edges. | |
| 14. Bring needle under vaginal opening and out through incision and tie. | |
### LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. If there is a sulcus tear on the other side of the vagina, repeat steps 11–14.</td>
<td></td>
</tr>
<tr>
<td>16. If there is a perineal wound, put the needle through the vaginal mucosa behind the hymenal ring and bring the needle out at the top of the perineal wound.</td>
<td></td>
</tr>
<tr>
<td>17. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
<td></td>
</tr>
<tr>
<td>18. Use interrupted or subcuticular sutures to bring skin edges together.</td>
<td></td>
</tr>
<tr>
<td>19. Wash perineal area with antiseptic, pat dry, and place a sterile sanitary pad over the vulva and perineum.</td>
<td></td>
</tr>
</tbody>
</table>

#### REPAIR OF PERIURETHRAL TEAR

1. Place a catheter in the bladder. This will help identify the urethra and keep from accidentally sewing the urethra shut or damaging it.
2. Draw 10 mL of 0.5% lignocaine into a syringe.
3. Position tissue edges together. (Approximate edges.)
4. Insert needle (1 cm needle) from the bottom and slightly to one side of the tear to the top of the tear.
5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.
6. Inject lignocaine as you withdraw.
7. Wait 2 minutes and then pinch site with forceps to check for anesthetic effect.
8. Place interrupted sutures the length of the tear, spaced approximately 1 cm apart for the full length of the tear.
9. If blood continues to ooze from the laceration, press gauze firmly over the wound for 1–2 minutes, until bleeding stops.

#### REPAIR OF CERVICAL TEAR

1. Clean the vagina and cervix with antiseptic solution.
2. Grasp both sides of the cervix using ring or sponge forceps (one forceps for each side of tear). Do not use toothed instruments as these can cut the cervix and cause more bleeding.
3. Place the handles from both forceps in one hand. Pull the handles toward you so that you can more clearly see the tear.
4. Place the first suture 1 cm above the apex of the tear and tie.
5. Close with a continuous suture, including the whole thickness of the cervix each time the suture needle is inserted.
6. If a long section of the cervix is tattered, under-run it with a continuous suture.

#### POST-PROCEDURE TASKS

1. Dispose of waste materials (e.g., blood-contaminated swabs) in a leak-proof container or plastic bag.
2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.
### LEARNING GUIDE FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

(Some of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Decontaminate or dispose of syringe and needle:</td>
<td></td>
</tr>
<tr>
<td>• If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container.</td>
<td></td>
</tr>
<tr>
<td>4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out:</td>
<td></td>
</tr>
<tr>
<td>• If disposing of gloves, place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>• If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate.</td>
<td></td>
</tr>
<tr>
<td>5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS
(To be used by the Facilitator/Teacher at the end of the module)

Place a “T” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task or skill not performed by learner during evaluation by facilitator/teacher

<table>
<thead>
<tr>
<th>Participant</th>
<th>Date Observed</th>
</tr>
</thead>
</table>

| CHECKLIST FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL, and CERVICAL TEARS (Some of the following steps/tasks should be performed simultaneously.) |
|---------------------------------|---------------------------------|
| **GETTING READY**               | **CASES**                       |
| 1. Prepare the necessary equipment. |                                 |
| 2. Tell the woman what is going to be done and encourage her to ask questions. |                                 |
| 3. Listen to what the woman has to say. |                                 |
| 4. Make sure that the woman has no allergies to lignocaine or related drugs. |                                 |
| 5. Provide emotional support and reassurance, as feasible. |                                 |
| 6. Put on personal protective equipment |                                 |

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**REPAIR OF VAGINAL SULCUS TEAR (and PERINEAL TEAR)**

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ask the woman to position her buttocks toward lower end of bed or table (use stirrups if available).</td>
<td></td>
</tr>
<tr>
<td>2. Ask an assistant to direct a strong light onto the woman’s perineum.</td>
<td></td>
</tr>
<tr>
<td>3. Cleanse perineum with antiseptic solution.</td>
<td></td>
</tr>
<tr>
<td>4. Draw 10 mL of 0.5% lignocaine into a syringe.</td>
<td></td>
</tr>
<tr>
<td>5. Insert needle beneath skin for 4-5 cm with two fingers guiding the proposed line.</td>
<td></td>
</tr>
<tr>
<td>6. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.</td>
<td></td>
</tr>
<tr>
<td>7. Inject lignocaine into vaginal mucosa, beneath skin of perineum and deeply into perineal muscle.</td>
<td></td>
</tr>
<tr>
<td>8. Wait 2 minutes and then pinch incision site with forceps, waiting 2 minutes more, retesting, and injecting additional lignocaine if she then still feels pinch.</td>
<td></td>
</tr>
<tr>
<td>9. Using 2/0 suture, insert suture needle just above (1 cm) the apex of the episiotomy, and suture continuously downward to the vaginal opening.</td>
<td></td>
</tr>
<tr>
<td>10. At opening of vagina, bring together cut edges.</td>
<td></td>
</tr>
<tr>
<td>11. Bring needle under vaginal opening and out through incision and tie.</td>
<td></td>
</tr>
<tr>
<td>12. If there is a sulcus tear on the other side of the vagina, repeat steps 11-14.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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<tr>
<td>13. If there is a perineal wound, put the needle through the vaginal mucosa behind the hymenal ring and bring the needle out at the top of the perineal wound.</td>
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<tr>
<td>14. Use interrupted sutures to repair perineal muscle, working from top of perineal incision downward.</td>
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<td>15. Use interrupted or subcuticular sutures to bring skin edges together.</td>
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**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**REPAIR OF PERIURETHRAL TEAR**

1. Place a catheter in the bladder.
2. Draw 10 mL of 0.5% lignocaine into a syringe.
3. Position tissue edges together. (Approximate edges.)
4. Insert needle (1 cm needle) from the bottom and slightly to one side of the tear to the top of the tear.
5. Draw back the plunger of syringe to make sure that needle is not in a blood vessel.
6. Inject lignocaine as you withdraw.
7. Wait 2 minutes and then pinch site with forceps to check for anesthetic effect, retesting and injecting additional lignocaine if necessary.
8. Place interrupted sutures the length of the tear, spaced approximately 1 cm apart for the full length of the tear.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**REPAIR OF CERVICAL TEAR**

1. Clean the vagina and cervix with antiseptic solution.
2. Grasp both sides of the cervix using ring or sponge forceps (one forceps for each side of tear) and pull to more clearly see tear.
3. Close with a continuous suture, including the whole thickness of the cervix each time the suture needle is inserted.
4. If a long section of the cervix is tattered, under-run it with a continuous suture.

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**

**POST-PROCEDURE TASKS**

1. Dispose of waste materials (e.g., blood-contaminated swabs) in a leak-proof container or plastic bag.
2. Decontaminate instruments by placing in a plastic container filled with 0.5% chlorine solution for 10 minutes.
### CHECKLIST FOR REPAIR OF VAGINAL SULCUS, PERIURETHRAL, and CERVICAL TEARS
(Some of the following steps/tasks should be performed simultaneously.)

<table>
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<tr>
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<th>CASES</th>
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</table>
| 3. Decontaminate or dispose of syringe and needle:  
  - If reusing needle or syringe, fill syringe (with needle attached) with 0.5% chlorine solution and submerge in solution for 10 minutes for decontamination.  
  - If disposing of needle and syringe, flush needle and syringe with 0.5% chlorine solution three times, then place in a puncture-proof container. |       |
| 4. Immerse both gloved hands in 0.5% chlorine solution and remove gloves by turning them inside out:  
  - If disposing of gloves, place in leak-proof container or plastic bag.  
  - If reusing surgical gloves, submerge in 0.5% chlorine solution for 10 minutes to decontaminate. |       |
| 5. Wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry. |       |

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
KNOWLEDGE ASSESSMENT: REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. When repairing a vaginal sulcus, the suture is started 1 cm above the apex of the wound(s) in the vagina:
   a. To permit use of local anesthesia
   b. To preserve integrity of hymenal ring
   c. To suture any blood vessels that may have retracted away from the edges of the tear
   d. To ensure that essential layers of deep muscle are included in the repair

2. A catheter should always be placed:
   a. Prior to the repair of a vaginal sulcus tear
   b. Prior to the repair of a cervical tear
   c. Prior to repair of a periurethral tear
   d. All of the above

3. In order to visualize the edge(s) of a cervical tear, both sides of the tear should be grasped with:
   a. Sponge forceps
   b. The hands of the assistant
   c. A toothed forcep or clamp
   d. All of the above

4. Counsel of the woman following the repair of a tear includes all of the following except:
   a. Change pads/cloths frequently enough to keep the perineum dry
   b. Get good nutrition and rest
   c. Return for suture removal 5–7 days after the repair
   d. Do not put anything into the vagina

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. Anesthesia is not required for repair of a vaginal sulcus tear. _____

6. After completing repair of the laceration, dispose of all materials in a plastic bag. _____
KNOWLEDGE ASSESSMENT: REPAIR OF VAGINAL SULCUS, PERIURETHRAL AND CERVICAL TEARS—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. When repairing a vaginal sulcus, the suture is started 1 cm above the apex of the wound(s) in the vagina:
   a. To permit use of local anesthesia
   b. To preserve integrity of hymenal ring
   c. To suture any blood vessels that may have retracted away from the edges of the tear
   d. To ensure that essential layers of deep muscle are included in the repair

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   a. Prior to the repair of a vaginal sulcus tear
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   a. Change pads/cloths frequently enough to keep the perineum dry
   b. Get good nutrition and rest
   c. Return for suture removal 5–7 days after the repair
   d. Do not put anything into the vagina

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. Anesthesia is not required for repair of a vaginal sulcus tear.      FALSE

6. After completing repair of the laceration, dispose of all materials in a plastic bag.      FALSE
Best Practices in Maternal and Newborn Care

Supplementary Module 18.1: Inspection/Repair of Tears Handouts

Session Objectives

- Define types of tears
- Describe the anesthesia needed for repair
- Describe the suture needed for repair
- Discuss some tips for repair
- Provide post-procedure counseling

Objectives of Repair of Vaginal Sulcus, Periurethral and Cervical Tears

- Prevent blood loss
- Facilitate return of genital tract to sexual and reproductive health

Question ??

What is the difference between a vaginal sulcus, periurethral and cervical tear?
Definitions

- Vaginal Sulcus Tear(s): One or more lacerations/tears of one or both sides of the vagina
- Periurethral Tear(s): One or more lacerations/tears near the urethra
- Cervical Tear(s): One or more lacerations/tears of the cervix

Question ??

What anesthesia is generally used for repair of a vaginal sulcus or periurethral tear?

Anesthesia for Repair of Vaginal Sulcus or Periurethral Tear

- Anesthesia of choice - 0.5% lignocaine.
- Use approximately 10 mL of lignocaine. If more than 40 mL is needed, add adrenaline to the solution. Do not use more than 50 mL.
- Aspirate to be sure that no vessel is penetrated.
- Anesthetize at least 2 minutes prior to suturing, and test that anesthesia has been effective.

Question ??

What anesthesia is generally used for repair of a cervical tear?
**Anesthesia for Cervical Tear**

- Anesthesia is not required for most cervical tears:
  - Emotional support and encouragement is needed. Relief of anxiety is important in reducing discomfort.
  - If tears are high and extensive, give pethidine and diazepam IV slowly (do not mix in same syringe) or use ketamine.

**Suture**

- For vaginal sulcus tear, use 2–0 chromic or vicryl suture
- For periurethral tears, use 3–0 or 4–0 chromic or vicryl suture
- For cervical tears, use 0 chromic suture

**Tips**

- Start suture 1 cm above apex of vaginal or cervical tear to catch any vessels that may have retracted
- Insert a catheter before beginning repair of periurethral tears to prevent damage to urethra
- Always use forceps, NEVER your fingers, to handle/maneuver needle

**Post-Procedure Counseling**

- Change pad/cloths frequently to keep wound dry
- Do sitz/warm soapy baths 3–4 times per day
- Do not insert anything in the vagina
- Get rest and good nutrition
- Delay intercourse to avoid breaking sutures
- Do not return for suture removal as they are absorbable
- Return after 4–6 days for check-up
Reference

## MODULE 19: BEST PRACTICES IN MANAGEMENT OF HEADACHE, CONVULSIONS, LOSS OF CONSCIOUSNESS OR HIGH BLOOD PRESSURE—SESSION PLAN

### MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Practices in Management of Headache, Convulsions, Loss of Consciousness or High Blood Pressure</td>
<td>60 min</td>
<td></td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

By the end of this session, participants will be able to:
- Discuss best practices for diagnosing and managing hypertension, pre-eclampsia and eclampsia
- Describe strategies for controlling hypertension
- Describe strategies for preventing and treating convulsions in eclampsia

### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: Best practices in management of headache, blurred vision, convulsions, loss of consciousness or high blood pressure (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use questions and discussion throughout presentation as indicated on slides.</td>
</tr>
<tr>
<td>Respond to questions as they arise during presentation.</td>
</tr>
<tr>
<td>Cover the following topics:</td>
</tr>
</tbody>
</table>
  - Types of hypertension—recognition: |
    - Chronic |
    - Pregnancy-induced: |
      - Pre-eclampsia |
      - Eclampsia |
  - Preventing eclampsia |
  - Management of eclampsia |
| Case studies: 1) High Blood Pressure during Pregnancy; 2) Pregnancy-Induced Hypertension at 30 Weeks; 3) Pregnancy-Induced Hypertension at 37 Weeks (30 min) |
| Small group work as described on case studies |
| General discussion to summarize |

#### Clinical simulation/drill (This drill can be conducted at any time during clinical or lab work, or can be staged at end of this session.)

- Have report and discussion from each group.
- Summarize results from group discussion.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Case Studies: High Blood Pressure during Pregnancy; Pregnancy-Induced Hypertension at 30 Weeks; Pregnancy-Induced Hypertension at 37 Weeks
- Clinical Simulation for the Management of Headaches, Blurred Vision, Convulsions, Loss of Consciousness or High Blood Pressure
- For Clinical Simulation: sphygmomanometer, stethoscope, equipment for IV infusion, syringes and vials, oxygen cylinder, gauge, self-inflating mask, equipment for bladder catheterization, reflex hammer (or similar device), high-level disinfected or sterile surgical gloves
CASE STUDY 19.1: HIGH BLOOD PRESSURE DURING PREGNANCY

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. A. is 34 years old. She is 18 weeks pregnant. She attended the antenatal clinic 1 week ago, when it was found that her diastolic blood pressure was 100 mm Hg on two readings taken 4 hours apart. Mrs. A. reports that she has had high blood pressure for years, which has not been treated with antihypertensive drugs. She does not know what her blood pressure was before she became pregnant. She moved to the district 6 months ago and her medical record is not available. She has come back to the antenatal clinic, as requested, 1 week later for follow-up.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. A., and why?

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. A. and your main findings include the following:

Mrs. A.’s diastolic blood pressure is 100 mm Hg. Her urine is negative for protein. She is feeling well and has no adverse symptoms (headache, visual disturbance or upper abdominal pain). Uterine size is consistent with dates. It has not been possible to obtain Mrs. A.’s medical record.

4. Based on these findings, what is Mrs. A.’s diagnosis, and why?

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?
EVALUATION

Mrs. A. returns to the antenatal clinic in 1 week. She feels well and has no adverse symptoms. Her diastolic blood pressure is 100 mm Hg. Her medical record has been obtained and her pre-pregnancy blood pressure is noted as 140/100 mm Hg.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?
CASE STUDY 19.1: HIGH BLOOD PRESSURE DURING PREGNANCY—
ANSWER KEY

CASE STUDY

Mrs. A. is 34 years old. She is 18 weeks pregnant. She attended the antenatal clinic 1 week ago, when it was found that her diastolic blood pressure was 100 mm Hg on two readings taken 4 hours apart. Mrs. A. reports that she has had high blood pressure for years, which has not been treated with antihypertensive drugs. She does not know what her blood pressure was before she became pregnant. She moved to the district 6 months ago and her medical record is not available. She has come back to the antenatal clinic, as requested, 1 week later for follow-up.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?
   - Mrs. A. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - She should be asked how she is feeling and whether she has had headache, visual disturbance or upper abdominal pain since the last visit. Her blood pressure should be taken and her urine should be tested for protein (proteinuria up to 2+, together with a diastolic blood pressure of 90–110 mm Hg before 20 weeks, is characteristic of superimposed mild pre-eclampsia).
   - Mrs. A.’s medical record should be obtained to check her history of hypertension.

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis, and why?
   - The most important examinations are measurement of blood pressure and urine protein estimation.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. A., and why?
   - As mentioned above, urine should be checked for protein.

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. A. and your main findings include the following:

Mrs. A.’s diastolic blood pressure is 100 mm Hg. Her urine is negative for protein. She is feeling well and has no adverse symptoms (headache, visual disturbance or upper abdominal pain). Uterine size is consistent with dates. It has not been possible to obtain Mrs. A.’s medical record.
4. Based on these findings, what is Mrs. A.’s diagnosis, and why?

- Mrs. A.’s symptoms and signs (e.g., diastolic blood pressure of 90 mm Hg or more before 20 weeks gestation and, in Mrs. A.’s case, a history of hypertension) are consistent with chronic hypertension.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?

- Mrs. A. should be counseled about the danger signs in pregnancy, with particular emphasis on those related to pre-eclampsia and eclampsia (severe headache, blurred vision, and convulsions or loss of consciousness) and the need to seek help immediately if any of these occur.
- Mrs. A. should be asked to return to the clinic in 1 week to have her blood pressure, urine and fetal condition monitored.
- She should be encouraged to express her concerns, listened to carefully and provided reassurance.
- In the meantime, an attempt should be made to obtain her medical record.
- Mrs. A.’s management should not, at this stage, include the use of antihypertensive drugs. (High levels of blood pressure maintain renal and placental perfusion in chronic hypertension. Reducing blood pressure will result in diminished perfusion—blood pressure should not be lowered below its pre-pregnancy level. There is no evidence that aggressive treatment to lower the blood pressure to normal levels improves either fetal or maternal outcome.)
- Basic antenatal care (early detection and treatment of problems, prophylactic interventions, birth plan development/revision, plan for infant feeding) should be provided, as needed.

EVALUATION

Mrs. A. returns to the antenatal clinic in 1 week. She feels well and has no adverse symptoms. Her diastolic blood pressure is 100 mm Hg. Her medical record has been obtained and her pre-pregnancy blood pressure is noted as 140/100 mm Hg.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Mrs. A. should be asked to return to the clinic every 2 weeks to have her blood pressure, urine and fetal condition monitored.
- She should be provided counseling about danger signs, again with particular emphasis on those related to pre-eclampsia/eclampsia.
- She should be encouraged to express her concerns, listened to carefully and provided reassurance.
- If Mrs. A.’s diastolic blood pressure increases to 110 mm Hg or more, or her systolic blood pressure increases to 160 mm Hg or more, she should be treated with antihypertensive drugs.
● If she develops proteinuria, superimposed pre-eclampsia should be considered and she should be managed accordingly.
● Basic antenatal care should continue to be provided, as needed.
● If there are no complications, Mrs. A. should be delivered at term.
CASE STUDY 19.2: PREGNANCY-INDUCED HYPERTENSION AT 30 WEEKS

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. B. is 16 years old. She is 30 weeks pregnant and has attended the antenatal clinic three times. All findings were within normal limits until her last antenatal visit 1 week ago. At that visit, it was found that her blood pressure was 130/90 mm Hg. Her urine was negative for protein. The fetal heart sounds were normal, the fetus was active and uterine size was consistent with dates. She has come to the clinic today, as requested, for follow-up.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. B., and why?

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis, and why?

3. What screening procedures/laboratory tests will you include in your assessment of Mrs. B., and why?

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

- Mrs. B.’s blood pressure is 130/90 mm Hg, and she has proteinuria 1+.
- She has no symptoms suggesting severe pre-eclampsia (headache, visual disturbance, upper abdominal pain, convulsions or loss of consciousness).
- The fetus is active and fetal heart sounds are normal. Uterine size is consistent with dates.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?
EVALUATION

Mrs. B. attends antenatal clinic on a twice-weekly basis, as requested. Her blood pressure remains the same, she continues to have proteinuria 1+, and the fetal growth is normal. Four weeks later, however, her blood pressure is 130/110 mm Hg and she has proteinuria 2+. Mrs. B. has not suffered headache, blurred vision, upper abdominal pain, convulsions or loss of consciousness and says that she feels well. However, she finds it very tiring to have to travel to the clinic by bus twice weekly for follow-up and wants to come only once a week.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?
CASE STUDY 19.2: PREGNANCY-INDUCED HYPERTENSION AT 30 WEEKS—ANSWER KEY

CASE STUDY

Mrs. B. is 16 years old. She is 30 weeks pregnant and has attended the antenatal clinic three times. All findings were within normal limits until her last antenatal visit 1 week ago. At that visit it was found that her blood pressure was 130/90 mm Hg. Her urine was negative for protein. The fetal heart sounds were normal, the fetus was active and uterine size was consistent with dates. She has come to the clinic today, as requested, for follow-up.

ASSESSMENT

(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. B., and why?
   - Mrs. B. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - Mrs. B. should be asked how she is feeling and whether she has had headache, blurred vision or upper abdominal pain since her last clinic visit.
   - She should be asked whether fetal activity has changed since her last visit.
   - Her blood pressure should be checked and her urine tested for protein (the presence of proteinuria, together with a diastolic blood pressure greater than 90 mm Hg, is indicative of mild pre-eclampsia).

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis, and why?
   - Blood pressure should be measured.
   - An abdominal examination should be done to check fetal growth and to listen for fetal heart sounds (in cases of pre-eclampsia/eclampsia reduced placental function may lead to low birth weight; there is an increased risk of hypoxia in both the antenatal and intranatal periods, and an increased risk of abruptio placentae).

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. B., and why?
   - As mentioned above, urine should be checked for protein.

DIAGNOSIS

(Identification of problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

- Mrs. B.’s blood pressure is 130/90 mm Hg, and she has proteinuria 1+. 
• She has no adverse symptoms (headache, visual disturbance, upper abdominal pain, convulsions or loss of consciousness).
• The fetus is active and fetal heart sounds are normal. Uterine size is consistent with dates.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?
• Mrs. B.’s signs and symptoms (e.g., diastolic blood pressure 90–110 mm Hg after 20 weeks gestation and proteinuria up to 2+) are consistent with mild pre-eclampsia.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?
• Mrs. B. should be provided reassurance and counseled about the danger signs related to severe pre-eclampsia and eclampsia (severe headache, blurred vision, upper abdominal pain, and convulsions or loss of consciousness) and the need to seek help immediately if any of these occur. She should be advised of the possible consequences of pregnancy-induced hypertension.
• She should be encouraged to take additional periods of rest and to eat a normal diet (salt restriction should be discouraged as this does not prevent pregnancy-induced hypertension).
• Mrs. B. should be asked to return to the clinic twice weekly to have her blood pressure, urine and fetal condition monitored.
• Mrs. B.’s management should not include the use of anticonvulsives, antihypertensives, sedatives or tranquilizers (these should not be given unless the blood pressure or urinary protein level increases).
• Basic antenatal care (early detection and treatment of problems, prophylactic interventions, birth plan development/revision, plan for newborn feeding) should be provided, as needed.
• She should be advised to plan for childbirth in the hospital.

EVALUATION

Mrs. B. attends antenatal clinic on a twice-weekly basis, as requested. Her blood pressure remains the same; she continues to have proteinuria 1+. Fetal growth is normal. Four weeks later, however, her blood pressure is 130/110 mm Hg and she has proteinuria 2+. Mrs. B. has not suffered headache, blurred vision, upper abdominal pain, convulsions or loss of consciousness and says that she feels well. However, she finds it very tiring to have to travel to the clinic by bus twice weekly for follow-up and wants to come only once a week.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?
• Mrs. B. needs to be monitored on a twice-weekly basis, especially since her diastolic blood pressure and proteinuria have increased. Since this will be difficult on an outpatient basis because travel to the clinic twice weekly is making Mrs. B. very tired, she should be admitted to the district hospital.
The need for close follow-up should be explained to Mrs. B. In relation to this, she should be encouraged to express her concerns, listened to carefully and provided emotional support and reassurance.

Her care in hospital should be as follows:

- Normal diet
- Blood pressure monitored twice daily
- Urine tested for protein daily
- Fetal condition monitored twice daily
- No anticonvulsants, antihypertensives, sedatives or tranquilizers

If Mrs. B.’s blood pressure returns to normal or her condition is stable, she could be discharged, providing arrangements can be made for twice-weekly follow-up (e.g., it may be possible for her to attend antenatal clinic once a week and be monitored at home once a week by a community midwife).

If her condition remains unchanged, she should remain in the hospital and be monitored as described above.

Basic antenatal care should continue to be provided, as needed.

If Mrs. B. develops signs of fetal growth restriction, early childbirth should be considered.

If fetal and maternal condition are stable, she should be allowed to go into spontaneous labor and may deliver vaginally without the need for vacuum extraction or forceps.
CASE STUDY 19.3: PREGNANCY-INDUCED HYPERTENSION AT 37 WEEKS

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. C. is 23 years old. She is 37 weeks pregnant and has attended the antenatal clinic four times. No abnormal findings were detected during antenatal visits, the last of which was 1 week ago. Mrs. C. has been counseled about danger signs in pregnancy and what to do about them. Her husband has brought her to the emergency department of the district hospital because she developed a severe headache and blurred vision this morning.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. C., and why?

2. What particular aspects of Mrs. C.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. C., and why?

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

- Mrs. C.’s blood pressure is 160/110 mm Hg, and she has proteinuria 3+.
- She has a severe headache that started 3 hours ago. Her vision became blurred 2 hours after the onset of headache. She has no upper abdominal pain and has not suffered convulsions or loss of consciousness. Her reflexes are normal.
- The fetus is active and fetal heart sounds are normal. Uterine size is consistent with dates.

4. Based on these findings, what is Mrs. C.’s diagnosis, and why?

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. C., and why?
EVALUATION

Two hours following the initiation of treatment, Mrs. C.’s diastolic blood pressure is 100 mm Hg. She has not had a convulsion, but still has a headache. She does not have coagulopathy. During the past 2 hours, however, Mrs. C.’s urinary output has dropped to 20 mL/hour. The fetal heart rate has ranged between 120 and 140 beats/minute.

6. Based on these findings, what is your continuing plan of care for Mrs. C., and why?
CASE STUDY 19.3: PREGNANCY-INDUCED HYPERTENSION
AT 37 WEEKS—ANSWER KEY

CASE STUDY

Mrs. C. is 23 years old. She is 37 weeks pregnant and has attended the antenatal clinic four times. No abnormal findings were detected during antenatal visits, the last of which was 1 week ago. Mrs. C. has been counseled about danger signs in pregnancy and what to do about them. Her husband has brought her to the emergency department of the district hospital because she developed a severe headache and blurred vision this morning.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. C., and why?
   • Mrs. C. and her husband should be greeted respectfully and with kindness.
   • They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   • A rapid assessment should be done to check level of consciousness and blood pressure. Temperature and respiration rate should also be checked. Mrs. C. should be asked how she is feeling, when headache and blurred vision began, whether she has had upper abdominal pain and whether there has been a decrease in urinary output during the past 24 hours.
   • Mrs. C.’s urine should be tested for protein.

2. What particular aspects of Mrs. C.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   • Mrs. C. should be checked for elevated blood pressure and protein in her urine (the presence of proteinuria, together with a diastolic blood pressure greater than 90 mm Hg, is indicative of pre-eclampsia).
   • An abdominal examination should be done to check fetal condition and to listen for fetal heart sounds (in cases of pre-eclampsia/eclampsia reduced placental function may lead to low birth weight; there is an increased risk of hypoxia in both the antenatal and intranatal periods, and an increased risk of abruptio placentae).
   • Note that a diagnosis should be made rapidly, within a few minutes.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. C., and why?
   • As mentioned above, urine should be checked for protein.

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:
Mrs. C.’s blood pressure is 160/110 mm Hg, and she has proteinuria 3+.

She has a severe headache that started 3 hours ago. Her vision became blurred 2 hours after the onset of headache. She has no upper abdominal pain and has not suffered convulsions or loss of consciousness. Her reflexes are normal.

The fetus is active and fetal heart sounds are normal. Uterine size is consistent with dates.

4. Based on these findings, what is Mrs. C.’s diagnosis, and why?

Mrs. C.’s symptoms and signs (e.g., diastolic blood pressure 110 mm Hg or more after 20 weeks gestation and proteinuria up to 3+) are consistent with severe pre-eclampsia.

CARE PROVISION
(Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. C., and why?

An antihypertensive drug should be given to lower the diastolic blood pressure and keep it between 90 mm Hg and 100 mm Hg to prevent cerebral hemorrhage. Hydralazine is the drug of choice; however, if this is not available, labetolol can be used.

Anticonvulsive therapy should be started. Magnesium sulfate is the drug of choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia; however, if it is not available, diazepam may be used.

Equipment to respond to a convulsion (airway, suction, mask and bag, oxygen) should be available at her bedside.

Mrs. C. should not be left alone if she has a convulsion.

An IV of normal saline or Ringer’s lactate should be started to administer IV drugs.

An indwelling catheter should be inserted to monitor urine output and proteinuria (magnesium sulfate should be withheld if the urine output falls below 30 mL/hour over 4 hours).

A strict record of intake and output should be kept to ensure that there is no fluid overload.

Vital signs (blood pressure and respiration rate, in particular), reflexes and fetal heart rate should be monitored hourly (magnesium sulfate should be withheld if the respiration rate falls below 16 breaths/minute or if patellar reflexes are absent).

Auscultate the lung bases hourly for rales indicating pulmonary edema.

A bedside clotting test should be done to rule out coagulopathy (coagulopathy can be triggered by eclampsia).

The steps taken to manage the complication should be explained to Mrs. C. and her husband. In addition, they should be encouraged to express their concerns, listened to carefully, and provided emotional support and reassurance.
EVALUATION

Two hours following the initiation of treatment, Mrs. C.’s diastolic blood pressure is 100 mm Hg. She has not had a convulsion, but still has a headache. She does not have coagulopathy. During the past 2 hours, however, Mrs. C.’s urinary output has dropped to 20 mL/hour. The fetal heart rate has ranged between 120 and 140 beats/minute.

6. Based on these findings, what is your continuing plan of care for Mrs. C., and why?

- Do not repeat the dose of magnesium sulfate until the urine output is greater than 30 mL/hour.

- Plans should be made to deliver Mrs. C.:
  - If the cervix is favorable (soft, thin, partly dilated), membranes should be ruptured and labor should be induced using oxytocin or prostaglandins.
  - If vaginal delivery is not anticipated within 24 hours, if there are fetal heart abnormalities (less than 100 or more than 180 beats/minute), or if the cervix is unfavorable, Mrs. C. should be delivered by cesarean section.
  - The steps taken for continuing management of the complication should be explained to Mrs. C. and her husband. In addition, they should be encouraged to express their concerns, listened to carefully, and provided continuing emotional support and reassurance.

- After childbirth:
  - Anticonvulsive therapy should be continued for 24 hours.
  - Antihypertensive drugs should be continued if Mrs. C.’s diastolic blood pressure is 110 mm Hg or more, and her urinary output should continue to be monitored.
CLINICAL SIMULATION FOR THE MANAGEMENT OF HEADACHES, BLURRED VISION, CONVULSIONS, LOSS OF CONSCIOUSNESS OR HIGH BLOOD PRESSURE

**Purpose:** The purpose of this activity is to provide a simulated experience for participants to practice problem-solving and decision-making skills in the management of headaches, blurred vision, convulsions, loss of consciousness or elevated blood pressure, with emphasis on thinking quickly and reacting (intervening) rapidly.

**Instructions:** The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a hospital, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One participant should play the role of patient and a second participant the role of skilled provider. Other participants may be called on to assist the provider.
- The trainer will give the participant playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.
- The participant will be expected to think quickly and react (intervene) rapidly when the trainer provides information and asks questions. Key reactions/responses expected from the participant are provided in the right-hand column of the chart below.
- Procedures such as starting an IV and giving oxygen should be role-played, using the appropriate equipment.
- Initially, the trainer and participant will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the participant’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

**Resources:** Sphygmomanometer, stethoscope, equipment for starting an IV infusion, syringes and vials, oxygen cylinder, gauge, self-inflating mask, equipment for bladder catheterization, reflex hammer (or similar device), high-level disinfected or sterile surgical gloves
### SCENARIO 1
(Information provided and questions asked by the trainer)

<table>
<thead>
<tr>
<th>SCENARIO 1</th>
<th>KEY REACTIONS/RESPONSES (Expected from participant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mrs. G. is 16 years old and is 37 weeks pregnant. This is her first pregnancy. She has presented to the labor unit with contractions and says that she has had a bad headache all day. She also says that she cannot see properly. While she is getting up from the examination table, she falls back onto the pillow and begins to have a convulsion. What will you do?</td>
<td><strong>Shouts</strong> for help to urgently mobilize all available personnel. Checks airway to ensure that it is open, and turns Mrs. G. onto her left side. Protects her from injuries (fall) but does not attempt to restrain her. Has one of the staff members who responded to her/his shout for help take Mrs. G.’s vital signs (temperature, pulse, blood pressure and respiration rate) and check her level of consciousness, color and skin temperature. Has another staff member start oxygen at 4–6 L/minute. Prepares and gives magnesium sulfate 20% solution, 4 g IV over 5 minutes. Follows promptly with 10 g of 50% magnesium sulfate solution, 5 g in each buttock deep IM injection with 1 mL of 2% lignocaine in the same syringe. At the same time, explains to the family what is happening and talks to the woman as appropriate.</td>
</tr>
<tr>
<td><strong>Discussion Question 1</strong>: What would you do if there was no magnesium sulfate in the hospital?</td>
<td><strong>Expected Response</strong>: Use diazepam 10 mg slowly IV over 2 minutes.</td>
</tr>
<tr>
<td>2. After 5 minutes, Mrs. G. is no longer convulsing. Her diastolic blood pressure is 110 mm Hg and her respiration rate is 20 breaths/minute. What is Mrs. G.’s problem? What will you do next? What should the aim be with respect to controlling Mrs. G.’s blood pressure? What other care does Mrs. G. require now?</td>
<td>States that Mrs. G.’s symptoms and signs are consistent with eclampsia. Gives hydralazine 5 mg IV slowly every 5 minutes until diastolic blood pressure is lowered to between 90–100 mm Hg. States that the aim should be to keep Mrs. G.’s diastolic blood pressure between 90 mm Hg and 100 mm Hg to prevent cerebral hemorrhage. Has one of the staff assist with the emergency insertion of an indwelling catheter to monitor urinary output and proteinuria. Has a second staff member start an IV infusion of normal saline or Ringer’s lactate and draws blood to assess clotting status using a bedside clotting test. Maintains a strict fluid balance chart.</td>
</tr>
<tr>
<td><strong>Discussion Question 2</strong>: Would you give additional hydralazine after the first dose?</td>
<td><strong>Expected Response</strong>: Repeat hourly as needed, or give 12.5 mg IM every 2 hours as needed.</td>
</tr>
<tr>
<td>3. After another 15 minutes, Mrs. G.’s blood pressure is 94 mm Hg and her respiration rate is 16 breaths/minute. What will you do now?</td>
<td>Stays with Mrs. G. continuously and monitors pulse, blood pressure, respiration rate, patella reflexes and fetal heart. Checks whether Mrs. G. has had any further contractions.</td>
</tr>
</tbody>
</table>
### SCENARIO 1 (continuation)

<table>
<thead>
<tr>
<th>Reaction/Response</th>
<th>Continuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. It is now 1 hour since treatment was started for Mrs. G. She is sleeping but is easily roused. Her blood pressure is now 90 mm Hg and her respiration rate is still 16 breaths/minute. She has had several more contractions, each lasting less than 20 seconds. What will you do now?</td>
<td>Continues to monitor pulse, blood pressure, respiration rate, patella reflexes and fetal heart. Monitors urine output and IV fluid intake. Monitors for the development of pulmonary edema by auscultating lung bases for rales. Assesses Mrs. G.’s cervix to determine whether it is favorable or unfavorable.</td>
</tr>
<tr>
<td>5. It is now 2 hours since treatment was started for Mrs. G. Her blood pressure is still 90 mm Hg and her respiration rate is still 16 breaths/minute. All other observations are within expected range. She continues to sleep and rouses when she has a contraction. Contractions are occurring more frequently but still last less than 20 seconds. Mrs. G.’s cervix is 100% effaced and 3 cm dilated. There are no fetal heart abnormalities. What will you do now? When should childbirth occur?</td>
<td>Continues to monitor Mrs. G. as indicated above States that membranes should be ruptured using an amniotic hook or a Kocher clamp and labor induced using oxytocin or prostaglandins States that childbirth should occur within 12 hours of the onset of Mrs. G.’s convulsions.</td>
</tr>
</tbody>
</table>

### SCENARIO 2

<table>
<thead>
<tr>
<th>Reaction/Response</th>
<th>States that Mrs. H.’s symptoms and signs are consistent with severe pre-eclampsia. Has one of the staff members who responded to her/his shout for help start oxygen at 4–6 L/minute. Prepares and gives magnesium sulfate 20% solution, 4 g IV over 5 minutes. Follows promptly with 10 g of 50% magnesium sulfate solution, 5 g in each buttock deep IM injection with 1 mL of 2% lignocaine in the same syringe. At the same time, tells Mrs. H. (and her mother-in-law) what is going to be done, listens to her and responds attentively to her questions and concerns States that the main concern at the moment is to prevent Mrs. H. from convulsing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mrs. H. is 20 years old. She is 38 weeks pregnant. This is her second pregnancy. Her mother-in-law has brought Mrs. H. to the health center this morning because she has had a severe headache and blurred vision for the past 6 hours. Mrs. H. says she feels very ill. What will you do?</td>
<td>Shouts for help to urgently mobilize all available personnel. Places Mrs. H. on the examination table on her left side. Makes a rapid evaluation of Mrs. H.’s general condition, including vital signs (temperature, pulse, blood pressure, and respiration rate), level of consciousness, color and skin temperature. Simultaneously asks about the history of Mrs. H.’s present illness.</td>
</tr>
<tr>
<td>2. Mrs. H.’s pulse is 100 beats/minute, diastolic blood pressure is 96 mm Hg and respiration rate 20 breaths/minute. She has hyper-reflexia. Her mother-in-law tells you that Mrs. H. has had no symptoms or signs of the onset of labor. What is Mrs. H.’s problem? What will you do now? What is your main concern at the moment?</td>
<td>States that Mrs. H.’s problem is pre-eclampsia. States that the main concern at the moment is to prevent Mrs. H. from convulsing.</td>
</tr>
<tr>
<td>SCENARIO 2 (continuation)</td>
<td>KEY REACTIONS/RESPONSES (continuation)</td>
</tr>
<tr>
<td>--------------------------</td>
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</tr>
<tr>
<td>3. After 15 minutes, Mrs. H. is resting quietly. She still has a headache and hyper-reflexia. What will you do now? What will you do during the next hour?</td>
<td>Has one of the staff assist with the emergency insertion of an indwelling catheter to monitor urinary output and proteinuria. Starts an IV infusion of normal saline or Ringer’s lactate. Listens to the fetal heart. States that during the next hour will continue to monitor vital signs, reflexes and fetal heart, and maintain a strict fluid balance chart.</td>
</tr>
<tr>
<td>4. It is now 1 hour since treatment for Mrs. H. was started. Her pulse is still 100 beats/minute, diastolic blood pressure 96 mm Hg and respiration rate 20 breaths/minute. She still has hyper-reflexia. You detect that the fetal heart rate is 80. What is your main concern now? What will you do now?</td>
<td>States that main concern now is fetal heart abnormality. States that Mrs. H. should be prepared to go to the operating room for cesarean section. Tells Mrs. H. (and her mother-in-law) what is happening, listens to her concerns and provides reassurance.</td>
</tr>
</tbody>
</table>
KNOWLEDGE ASSESSMENT: MANAGEMENT OF HEADACHE, BLURRED VISION, CONVULSIONS, LOSS OF CONSCIOUSNESS OR HIGH BLOOD PRESSURE

**Instructions:** Write the letter of the single **best** answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Conditions necessary for a woman to be considered to have pre-eclampsia are:
   a. She is more than 20 weeks pregnant
   b. Her diastolic blood pressure is more than 90 mm Hg
   c. She has proteinuria
   d. All of the above

2. Signs and symptoms of severe pre-eclampsia may include:
   a. Epigastric tenderness, headache, and/or visual changes
   b. Hyper-reflexia
   c. Pulmonary edema and/or oliguria
   d. a) and b)
   e. All of the above

3. What is the drug of choice for managing a convulsion in a pregnant woman?
   a. Diazepam (Valium)
   b. Hydralazine
   c. Magnesium sulfate

4. Eclampsia may occur:
   a. During pregnancy
   b. During labor and birth
   c. During the postpartum period
   d. a) and b)
   e. All of the above

**Instructions:** In the space provided, print a capital **T** if the statement is **true** or a capital **F** if the statement is **false**.

5. Eclampsia can be **predicted** from the mean arterial blood pressure or diastolic blood pressure during the second trimester. ____

6. Eclampsia is abrupt in onset, without warning signs in about 20% of women. ____
KNOWLEDGE ASSESSMENT: MANAGEMENT OF HEADACHE, BLURRED VISION, CONVULSIONS, LOSS OF CONSCIOUSNESS OR HIGH BLOOD PRESSURE—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Conditions necessary for a woman to be considered to have pre-eclampsia are:
   a. She is more than 20 weeks pregnant
   b. Her diastolic blood pressure is more than 90 mm Hg
   c. She has proteinuria
   d. All of the above

2. Signs and symptoms of severe pre-eclampsia may include:
   a. Epigastric tenderness, headache, and/or visual changes
   b. Hyper-reflexia
   c. Pulmonary edema and/or oliguria
   d. a) and b)
   e. All of the above

3. What is the drug of choice for managing a convulsion in a pregnant woman?
   a. Diazepam (Valium)
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   c. Magnesium sulfate

4. Eclampsia may occur:
   a. During pregnancy
   b. During labor and birth
   c. During the postpartum period
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. Eclampsia can be predicted from the mean arterial blood pressure or diastolic blood pressure during the second trimester.  
   FALSE

6. Eclampsia is abrupt in onset, without warning signs in about 20% of women.  
   TRUE
Session Objectives

- Discuss best practices for diagnosing and managing hypertension, pre-eclampsia and eclampsia
- Describe strategies for controlling hypertension
- Describe strategies for preventing and treating convulsions in eclampsia

Problem

Pregnant or recently postpartum woman who:

- Has elevated blood pressure
- Complains of headache or blurred vision
- Is found unconscious or convulsing

What’s her problem?

What do you think may be wrong?
What is her problem?

It may be severe pre-eclampsia or eclampsia.

High Blood Pressure

- **Classifications:**
  - Chronic hypertension
  - Pregnancy-induced hypertension:
    - Pregnancy-induced hypertension without proteinuria
    - Mild pre-eclampsia
    - Severe pre-eclampsia
    - Eclampsia

Questions ??

- What is pre-eclampsia?
- When can it occur?

Pre-Eclampsia

- Woman over 20 weeks gestation with:
  - Diastolic blood pressure > 90 mm Hg AND
  - Proteinuria
- Predisposes woman to develop eclampsia
Mild Pre-Eclampsia

- Two readings of diastolic blood pressure 90-110 mm Hg 4 hours apart after 20 weeks gestation
- Proteinuria up to 2+
- No other signs/symptoms of severe pre-eclampsia

Severe Pre-Eclampsia

- Diastolic blood pressure > 110 mm Hg
- Proteinuria > 3+

Other signs and symptoms sometimes present:
- Epigastric tenderness
- Headache
- Visual changes
- Hyperreflexia
- Pulmonary edema
- Oliguria

Predicting Pre-eclampsia: What do the studies* tell us?

- Those women who developed gestational hypertension at an earlier gestational age were more likely to progress to pre-eclampsia
- Approximately 15–25% of women initially diagnosed with gestational hypertension will develop pre-eclampsia
- It is difficult to predict who will develop pre-eclampsia

Questions ??

- What is “eclampsia”?
- When can it occur?

*Sources: Saudan et al. 1998; Moutquin et al. 1985.
Eclampsia: Typical Signs

- Convulsions occurring after 20 weeks gestation in a woman without a previously known seizure disorder. (Can also occur in first few days postpartum.)
- Proteinuria 2+ or more
- Blood pressure 90 mm Hg or more:
  - A small proportion of women with eclampsia have normal blood pressure

Strategies for Preventing Eclampsia

- Antenatal care and recognition of hypertension
- Identification and treatment of pre-eclampsia by skilled attendant
- Timely delivery

3.4% of women with severe pre-eclampsia will have a convolution
- Eclampsia is the number one cause of in-hospital maternal death in Nepal

More Study Results

Another study by Chesley and Sibai in 1987 concluded:
- Cannot use 2nd trimester mean arterial pressure or diastolic pressure to predict eclampsia
- Eclampsia is abrupt in onset, without warning signs in about 20% of women

Source: Chesley and Sibai 1987.

Question ??

What should be your initial response when you find a woman in late pregnancy who is convulsing?
Initial Assessment and Management of Eclampsia
- Shout for help – mobilize personnel
- Rapidly evaluate breathing and state of consciousness
- Check airway, blood pressure and pulse
- Position on left side
- Protect from injury but do not restrain
- Start IV infusion with large-bore needle (16-gauge)
- Give oxygen at 4 L/minute

Antihypertensive Drugs
- **Drugs:**
  - Hydralazine
  - Labetolol
  - Nifedipine
- **Principles:**
  - Initiate antihypertensives if diastolic blood pressure > 110 mm Hg
  - Maintain diastolic blood pressure 90–100 mm Hg to prevent cerebral hemorrhage

EMERGENCY!!!
- **Question:**
  - What do you do if a woman is suddenly convulsing?

Management during a Convulsion
- Give magnesium sulfate IM
- Gather emergency equipment (O2, mask, etc.)
- Position on left side
- Protect from injury but do not restrain

DO NOT LEAVE THE WOMAN UNATTENDED
Best Practices in Maternal and Newborn Care
Learning Resource Package

Anticonvulsive Drugs
- Magnesium sulfate
- Diazepam
- Phenytoin

Post-Convulsion Management
- Prevent further convulsions
- Control blood pressure
- Prepare for delivery (if undelivered)

Studies to Be Reviewed
For severe pre-eclampsia:
- Magnesium sulfate vs. placebo

For eclampsia:
- Magnesium sulfate vs. diazepam
- Magnesium sulfate and outcome of labor

Magnesium Sulfate
- Use magnesium sulfate in:
  - Women with eclampsia
  - Women with severe pre-eclampsia necessitating delivery
- Start magnesium sulfate when decision for delivery is made
- Continue therapy until 24 hours after delivery or the last convulsion, whichever occurs last
**Monitoring Hourly**

<table>
<thead>
<tr>
<th>Assess</th>
<th>Normal Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of consciousness</td>
<td>Sleepy but arousable</td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>Should be maintained between 80–100 mmHg</td>
</tr>
<tr>
<td>Respiratory rate</td>
<td>16 breaths/minute or more</td>
</tr>
<tr>
<td>Deep tendon reflexes</td>
<td>Minimal but present</td>
</tr>
<tr>
<td>Fetal heart sounds (if undelivered)</td>
<td>Decrease in variability</td>
</tr>
</tbody>
</table>

**Monitoring Hourly (cont.)**

<table>
<thead>
<tr>
<th>Assess</th>
<th>Abnormal Findings</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lungs</td>
<td>Pulmonary edema</td>
<td>Discontinue magnesium sulfate</td>
</tr>
<tr>
<td>Urine output</td>
<td>Falls below 30 mL/hour or 120 mL/4 hours</td>
<td>Discontinue magnesium sulfate</td>
</tr>
<tr>
<td>Uterus (after delivery)</td>
<td>Atonic uterus (postpartum bleeding)</td>
<td>Consider oxytocin for 24 hours after delivery</td>
</tr>
</tbody>
</table>

**Principles of Management**

- Timing and route of delivery: condition of mother vs. maturity of fetus
- Assessment of fetus: evidence of fetal compromise
- Control of convulsions
- Control of hypertension
- Referral due to other organ complications: pulmonary, renal, central nervous system

**Summary**

- There are many manifestations of increased blood pressure in pregnancy
- It is not possible to predict which patients are at risk for severe pre-eclampsia or eclampsia
- Vigilant care is needed to make the diagnosis
- Once the diagnosis is made, appropriate treatment can reduce morbidity and mortality
- Anticonvulsants should be used, with magnesium sulfate being the first line
- Antihypertensives should be employed as needed
- Close monitoring is needed for side effects
References


References (cont.)


OPTIONAL SLIDES
Magnesium Sulfate vs. Placebo in Women with Pre-Eclampsia: Objective and Design

- Objective: To evaluate the effectiveness of magnesium sulfate vs. placebo
- Design: Double-blinded prospective RCT
- Tertiary referral obstetrics unit in South Africa
- 822 women with severe pre-eclampsia necessitating delivery randomly assigned to placebo or magnesium sulfate
- Data from 699 women evaluated

Source: Coetzee, Domisse and Anthony 1998.

Magnesium Sulfate vs. Placebo in Women with Pre-Eclampsia: Results

In women with severe pre-eclampsia, eclampsia occurred 11 times less often in women receiving magnesium sulfate than in women receiving placebo

Source: Coetzee, Domisse and Anthony 1998.

Magnesium Sulfate vs. Placebo in Women with Pre-Eclampsia: Results (cont.)

<table>
<thead>
<tr>
<th></th>
<th>Convulsions</th>
<th>No Convulsions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium sulfate</td>
<td>1 (0.3%)</td>
<td>344 (99.7%)</td>
</tr>
<tr>
<td>No magnesium sulfate</td>
<td>11 (3.2%)*</td>
<td>329 (96.7%)</td>
</tr>
</tbody>
</table>

* RR 0.09, 95% CI (0.01–0.69)

Source: Coetzee, Domisse and Anthony 1998.

Magnesium Sulfate vs. Placebo in Women with Pre-Eclampsia: Results (cont.)

No significant difference in:
- Need for antihypertensive therapy
- Number of cesarean sections performed
- Number of live births vs. stillbirths
- Average gestational age
- Birthweight at delivery
- Number of maternal deaths

Magnesium Sulfate vs. Diazepam for Eclampsia: Study Objective and Design

- **Objective:** To assess effects of magnesium sulfate compared with diazepam when used for the care of women with eclampsia
- **Design:** Randomized controlled trial

Source: Duley and Henderson-Smart 2000a.

Magnesium Sulfate vs. Diazepam: Recurrence of Convulsions

<table>
<thead>
<tr>
<th></th>
<th>Convulsions</th>
<th>No Convulsions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium sulfate</td>
<td>71</td>
<td>547</td>
<td>618</td>
</tr>
<tr>
<td>Diazepam</td>
<td>160</td>
<td>458</td>
<td>618</td>
</tr>
</tbody>
</table>

RR 0.45, 95% CI 0.35-0.58

No differences in maternal morbidity and borderline decrease in maternal mortality

Source: Duley and Henderson-Smart 2000a.

Magnesium Sulfate and Effect on Labor: Objective and Design

- **Objective:** Evaluate effect of magnesium sulfate on labor
- **Design:**
  - Study period: March 1995 to June 1996; randomized term mildly pre-eclamptic women to receive magnesium sulfate 6 g bolus then 2 g/hour or saline
  - Cervical ripening agents/oxytocin at physician’s discretion
  - Women taken off protocol if developed severe pre-eclampsia


Magnesium Sulfate and Effect on Labor: Results

- **Outcome:** Length of labor, duration of latent and active phases, first and second stages
- **Results:**
  - No difference in duration of oxytocin: magnesium sulfate group 14.1 hours vs. 13.5 hours
  - Slightly higher dose of oxytocin required in magnesium sulfate group: 13.9 mL/min vs. 11.0 (p<0.036)
  - No significant postpartum hemorrhage or side effects

Magnesium Sulfate and Effect on Labor: Conclusion

Slightly higher doses of oxytocin required in magnesium treated groups, but no difference in labor and no adverse effects


Case Study

- Divide participants into groups of 4 or 5
- Each group should read Case Study: Pregnancy-Induced Hypertension and answer the questions
- Reassemble the larger group and discuss case study and questions
# SESSION PLAN

## MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Management of Fever after Childbirth</td>
<td>75 min</td>
</tr>
</tbody>
</table>

## SESSION OBJECTIVES

*By the end of this session, participants will be able to:*
- Discuss the prevalence of Postpartum infection
- Describe risk factors for and diagnosis of postpartum infection
- Discuss strategies for preventing postpartum infection
- Describe clinical treatment approaches
- Discuss programmatic approaches for prevention and treatment

## Methods and Activities

### Illustrated presentation/discussion: Best practices in managing fever after childbirth (30 min)
- Use questioning of group to draw out knowledge and experience of participants (suggested questions provided in PowerPoint presentation).
- Discuss issues that arise during presentation and questioning.
- Be sure to include the following topical areas:
  - Prevalence and significance of fever after childbirth
  - Natural barriers to infection
  - Risk factors for postpartum infection
  - Causes of postpartum infection
  - Prevention strategies
  - Investigation of Vitamin A and postpartum infection
  - Prophylactic antibiotics for C/S surgery
  - Managing metritis

### Case studies (instructions in PowerPoint) (45 min)
- Divide participants into groups to work on the three case studies.
- Reassemble group to discuss answers to case study.

## Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Case Study 1: Fever after Childbirth
- Case Study 2: Fever after Childbirth
- Case Study 3: Fever after Childbirth
- Paper and pens for recording answers to case studies
CASE STUDY 20.1: FEVER AFTER CHILDBIRTH

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. B. is 22 years old. She gave birth to a full-term newborn 3 days ago at the health center. The newborn weighed 4 kg and Mrs. B. suffered a perineal laceration that required suturing. She was counseled about danger signs before leaving the health center, including the need to seek care early if any danger signs occur. Mrs. B. has come back today complaining that her perineal wound has become increasingly tender during the past 12 hours. She also says that she feels hot and unwell.

ASSESSMENT

(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your assessment of Mrs. B., and why?

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. B., and why?

DIAGNOSIS

(Identification of problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:

- Mrs. B.’s temperature is 38º C, her pulse rate is 90 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
- Her perineal wound is tender, with pus draining from the center. The wound is not edematous but there is slight erythema present extending beyond the edge of the incision.
- She has no abdominal pain or tenderness. Her lochia is red, normal in amount, and does not have an offensive odor.
4. Based on these findings, what is Mrs. B.’s diagnosis, and why?

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?

EVALUATION

Mrs. B. returns to the health center the next day. Her temperature is 37.6º C. Her perineal wound is slightly less tender and there is less discharge.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?
CASE STUDY 20.1: FEVER AFTER CHILDBIRTH—
ANSWER KEY

CASE STUDY

Mrs. B. is 22 years old. She gave birth to a full-term newborn 3 days ago at the health center. The newborn weighed 4 kg and Mrs. B. suffered a perineal laceration that required suturing. She was counseled about danger signs before leaving the health center, including the need to seek care early if any danger signs occur. Mrs. B. has come back today complaining that her perineal wound has become increasingly tender during the past 12 hours. She also says that she feels hot and unwell.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. B., and why?
   - Mrs. B. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to determine the degree of illness: Mrs. B.’s temperature, pulse, respiration rate and blood pressure should be taken and she should also be asked if she has had other symptoms, such as: abdominal pain and/or tenderness or foul-smelling lochia.

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   - Mrs. B.’s perineal wound should be examined for pain and tenderness, discharge, abscess formation and cellulitis (wound tenderness, bloody or serous discharge, and slight erythema beyond the edge of the incision may be present with a wound abscess, wound seroma or wound hematoma; whereas, pain and tenderness, erythema or edema beyond the edge of the incision, purulent discharge, and a reddened area around the wound are signs of wound cellulitis). If purulent discharge is seen, determine whether it is coming from the wound or from above the wound (vagina, uterus).
   - An abdominal examination should also be done and lochia checked to detect other signs characteristic of postpartum fever (abdominal pain and tenderness, and purulent foul-smelling lochia).

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. B., and why?
   - None at this stage.

DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. B. and your main findings include the following:
Mrs. B.’s temperature is 38º C, her pulse rate is 90 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.

Her perineal wound is tender, with pus draining from the center. The wound is not edematous but there is erythema present extending beyond the edge of the incision.

She has no abdominal pain or tenderness. Her lochia is red, normal in amount, and does not have an offensive odor.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?

Mrs. B.’s symptoms and signs (e.g., wound tenderness, pus discharge, erythema, fever) are consistent with wound abscess with cellulitis.

CARE PROVISION
(Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?

- Because there is pus draining from the wound, it should be opened and drained. The infected skin and subcutaneous sutures should be removed and the wound debrided and a damp dressing placed in it.
- Give Ampicillin 500 mg by mouth four times per day for 5 days; PLUS metronidazole 400 mg by mouth three times per day for 5 days.
- The steps taken to manage the complication should be explained to Mrs. B., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.
- Mrs. B. should be counseled about the need for good hygiene, to change her perineal pad/cloth at least three times a day, and to wear clean clothes.
- She should also be encouraged to rest at home and to drink as much fluid as possible.
- Ask Mrs. B. to return the next day for follow-up and to have the perineal dressing changed.

EVALUATION

Mrs. B. returns to the health center the next day. Her temperature is 37.6º C. Her perineal wound is slightly less tender and there is less discharge.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?

- The wound should be dressed again with a damp dressing.
- The steps taken for continuing management of the complication should be explained to Mrs. B., she should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.
- Mrs. B. should be followed up on a daily basis until the wound has healed satisfactorily.

REFERENCE

CASE STUDY 20.2: FEVER AFTER CHILDBIRTH

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. D. is 17 years old. She gave birth to her first newborn 3 weeks ago at the health center. Her birth was uncomplicated and the newborn was healthy and of normal birth weight. You last saw Mrs. D. 2 days after the birth, when she and her newborn were found to be doing well. She has come to the health center today because she has breast pain and tenderness and feels unwell.

ASSESSMENT

(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. D., and why?

2. What particular aspects of Mrs. D.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. D., and why?

DIAGNOSIS

(Identification of problems/needs)

You have completed your assessment of Mrs. D. and your main findings include the following:

- Her temperature is 38º C, her pulse rate is 120 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
- She has pain and tenderness in her left breast, and there is a wedge-shaped area of redness in one segment of the breast.
- Mrs. D. reports that for the first week or so after birth, her newborn seemed to have difficulty taking the nipple into his mouth, but more recently she thinks that he has been doing better. He feeds about six times in a 24-hour period and is given water between feedings. Mrs. D. had breastfed the newborn less than an hour before you examined her.
4. Based on these findings, what is Mrs. D.’s diagnosis, and why?

CARE PROVISION (Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. D., and why?

EVALUATION

Three days later Mrs. D. reports that she is feeling better and has stopped taking her medication. Her temperature is 37.6°C, her pulse is 90 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute. There is less pain and swelling in her breast. She reports that she has stopped giving her newborn water and he has been feeding more than six times in 24 hours. She also reports that the newborn seems to be attaching better to the breast.

6. Based on these findings, what is your continuing plan of care for Mrs. D., and why?
CASE STUDY 20.2: FEVER AFTER CHILDBIRTH—ANSWER KEY

CASE STUDY

Mrs. D. is 17 years old. She gave birth to her first newborn 3 weeks ago at the health center. Her birth was uncomplicated and the newborn was healthy and of normal birth weight. You last saw Mrs. D. 2 days after the birth, when she and her newborn were found to be doing well. She has come to the health center today because she has breast pain and tenderness and feels unwell.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What will you include in your assessment of Mrs. D., and why?
   - Mrs. D. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to determine the degree of illness; Mrs. D.’s temperature, pulse, respiration rate and blood pressure should be checked. In addition, she should be asked how breastfeeding is going, whether she has had any problems, how many times in a 24-hour period the newborn is feeding, whether she has fed the newborn anything other than breast milk, and whether she has cracked or sore nipples.

2. What particular aspects of Mrs. D.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   - Mrs. D.’s breasts should be checked for pain and tenderness, swelling and inflammation, and cracked nipples.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. D., and why?
   - None at this stage.

DIAGNOSIS (Identification of problems/needs)

You have completed your assessment of Mrs. D. and your main findings include the following:

- Her temperature is 38º C, her pulse rate is 120 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
- She has pain and tenderness in her left breast, and there is a wedge-shaped area of redness in one segment of the breast.
Mrs. D. reports that for the first week or so after birth, her newborn seemed to have difficulty taking the nipple into his mouth, but more recently she thinks that he has been doing better. He feeds about six times in a 24-hour period and is given water between feedings. Mrs. D. had breastfed the newborn less than an hour before you examined her.

4. Based on these findings, what is Mrs. D.’s diagnosis, and why?
- Mrs. D.’s symptoms and signs (e.g., fever, breast pain and tenderness, and a reddened, wedge-shaped area on one breast) are consistent with mastitis.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. D., and why?
- Mrs. D. should be treated with one of the following antibiotics: cloxacillin 500 mg by mouth four times/day for 10 days; or erythromycin 250 mg by mouth three times/day for 10 days.
- Her breastfeeding technique should be observed for correct positioning (i.e., newborn’s head and body straight, well supported, and held close to mother’s body, newborn facing breast with nose opposite nipple) and attachment (i.e., more areola visible above than below the mouth, mouth open wide, lower lip turned outward, chin touching breast).
- Mrs. D. should be provided reassurance and encouragement to continue breastfeeding, at least eight times in a 24-hour period. She should also be encouraged to stop giving her newborn water and counseled about exclusive breastfeeding.
- A breast binder or brassiere should be worn to support her breasts and cold compresses should be applied between feedings to reduce swelling and pain.
- Pacacetamol 500 mg by mouth should be given, as needed.
- Mrs. D. should be asked to return for follow-up in 3 days.

EVALUATION

Three days later Mrs. D. reports that she is feeling better and has stopped taking her medication. Her temperature is 37.6º C, her pulse is 90 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute. There is less pain and swelling in her breast. She reports that she has stopped giving her newborn water and he has been feeding more than six times in 24 hours. She also reports that the newborn seems to be attaching better to the breast.

6. Based on these findings, what is your continuing plan of care for Mrs. D., and why?
- Mrs. D. should be counseled about the importance of completing the full 10-day course of antibiotics (3 days of antibiotic therapy is insufficient to resolve infection).
- Breastfeeding technique should be observed again to check positioning and attachment, and further reassurance and encouragement should be provided to Mrs. D. to continue breastfeeding at least eight times in 24 hours.
Mrs. D. should be followed up every 2–3 days to ensure that she complies with antibiotic therapy, that her symptoms and signs resolve, and to provide continuing reassurance and encouragement for breastfeeding.

**REFERENCE**

CASE STUDY 20.3: FEVER AFTER CHILDBIRTH

DIRECTIONS

Read and analyze this case study individually. When the others in your group have finished reading it, answer the case study questions. Consider the steps in clinical decision-making as you answer the questions. The other groups in the room are working on the same or a similar case study. When all groups have finished, we will discuss the case studies and the answers each group has developed.

CASE STUDY

Mrs. C. is a 35-year-old para three. She gave birth at home 48 hours ago. Her pregnancy was term and her birth attendant was the local traditional birth attendant (TBA). Labor lasted 2 days and the TBA inserted herbs into Mrs. C.’s vagina to help speed up the childbirth. The newborn breathed spontaneously and appears healthy. Mrs. C.’s husband has brought her to the health center today because she has had fever and chills for the past 24 hours.

ASSESSMENT (History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. C., and why?

2. What particular aspects of Mrs. C.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. C., and why?

DIAGNOSIS (Identification of problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

- Mrs. C.’s temperature is 39.8º C, her pulse rate is 136 beats/minute, her blood pressure is 100/70 mm Hg and her respiration rate is 24 breaths/minute.
- She is pale and lethargic and slightly confused.
- She has lower abdominal pain, her uterus is soft and tender, and she has foul-smelling vaginal discharge.
- It is not known whether the placenta was complete.
- Mrs. C. is fully immunized against tetanus.

4. Based on these findings, what is Mrs. C.’s diagnosis, and why?

CARE PROVISION (Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. C., and why?
EVALUATION

Thirty-six hours after initiation of treatment, you find the following:

Mrs. C.’s temperature is 38º C, her pulse rate is 96 beats/minute, her blood pressure is 110/70 mm Hg and her respiration rate is 20 breaths/minute. She is less pale and no longer confused.

6. Based on these findings, what is your continuing plan of care for Mrs. C., and why?
CASE STUDY 20.3: FEVER AFTER CHILDBIRTH—ANSWER KEY

CASE STUDY

Mrs. C. is a 35-year-old para three. She gave birth at home 48 hours ago. Her pregnancy was term and her birth attendant was the local TBA. Labor lasted 2 days and the TBA inserted herbs into Mrs. C.’s vagina to help speed up the childbirth. The newborn breathed spontaneously and appears healthy. Mrs. C.’s husband has brought her to the health center today because she has had fever and chills for the past 24 hours.

ASSESSMENT (History, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. C., and why?
   • Mrs. C. and her husband should be greeted respectfully and with kindness.
   • They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   • A rapid assessment should be done to determine the degree of illness: Mrs. C.’s temperature, pulse, respiration rate and blood pressure should be taken and she should be asked whether she has felt weak and lethargic or whether she has had frequent, painful urination, abdominal pain or foul-smelling vaginal discharge. Determine whether she is from a malarial area.
   • The following information should also be obtained about the birth: when the membranes ruptured, problems delivering the placenta, whether it was complete and whether there was excessive bleeding following the birth.
   • Because herbs were inserted into Mrs. C.’s vagina during labor, tetanus vaccination status should be checked.

2. What particular aspects of Mrs. C.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   • Mrs. C.’s abdomen should be checked for tenderness and her vulva should be checked for purulent discharge (lower abdominal pain, tender uterus, and purulent, foul-smelling lochia are symptoms and signs of metritis). Her legs should be checked for calf muscle tenderness, which may indicate deep vein thrombosis.

   • Mrs. C.’s perineum, vagina and cervix should be examined carefully for tears, particularly since labor was prolonged and because foreign substances were inserted into the vagina.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. C., and why?
   • None at this point.
DIAGNOSIS
(Identification of problems/needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

- Mrs. C.’s temperature is 39.8º C, her pulse rate is 136 beats/minute, her blood pressure is 100/70 mm Hg and her respiration rate is 24 breaths/minute.
- She is pale and lethargic and slightly confused.
- She has lower abdominal pain, her uterus is soft and tender, and she has foul-smelling vaginal discharge.
- It is not known whether the placenta was complete.
- Mrs. C. is fully immunized against tetanus.

4. Based on these findings, what is Mrs. C.’s diagnosis, and why?
- Mrs. C.’s symptoms and signs (e.g., fever, together with signs of shock [rapid pulse, confusion], and lower abdominal pain, uterine tenderness, and foul-smelling vaginal discharge) are consistent with metritis.

CARE PROVISION (Planning and intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. C., and why?
- Mrs. C. should be treated for shock immediately:
  - Position her on her side.
  - Ensure that her airway is open.
  - Give her oxygen at 6–8 L/minute by mask or cannula.
  - Keep her warm.
  - Elevate her legs.
  - Monitor her pulse, blood pressure, respiration and temperature.
  - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
  - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).
- Blood should be drawn for hemoglobin and cross-matching and blood for transfusion should be made available, if necessary.
- The following combination of antibiotics should be given: ampicillin 2 g IV every 6 hours; plus gentamicin 5 mg/kg of body weight IV every 24 hours; plus metronidazole 500 mg IV every 8 hours. If retained placental fragments are suspected, a digital exploration of the uterus should be performed to remove clots and large pieces of tissue. If necessary, ovum forceps or a large curette should be used.
- Uterine involution and lochia should be monitored for improvement.
• Because Mrs. C.’s childbirth was unhygienic, a booster of tetanus toxoid 0.5 mL IM should be given.
• The steps taken to manage the complication should be explained to Mrs. C., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

Thirty-six hours after initiation of treatment, you find the following:

Mrs. C.’s temperature is 38º C, her pulse rate is 96 beats/minute, her blood pressure is 110/70 mm Hg and her respiration rate is 20 breaths/minute. She is less pale and no longer confused.

6. Based on these findings, what is your continuing plan of care for Mrs. C., and why?
• IV antibiotics should be continued until Mrs. C. has been fever-free for 48 hours. Oral antibiotics should not be necessary after stopping the IV antibiotics.
• Her vital signs, intake and output, and uterine involution should continue to be monitored.
• IV fluids should be continued to maintain hydration until Mrs. C. is well enough to take adequate fluid and nourishment by mouth.
• The steps taken for continuing management of the complication should be explained to Mrs. C. and her husband, they should be encouraged to express their concerns, listened to carefully, and provided continuing emotional support and reassurance.
• Arrangements should be made to talk with the TBA who attended the birth, and provide community education about clean birth practices.

REFERENCE

Managing Complications in Pregnancy and Childbirth: pages S-1 to S-2; S-107 to S-110; S-51.
KNOWLEDGE ASSESSMENT: MANAGEMENT OF FEVER AFTER CHILDBIRTH

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Globally, what percentage of women develop infections after childbirth:
   a. < 5%
   b. 5–20%
   c. 25–35%
   d. > 35%

2. Factors that may predispose to postpartum infection:
   a. Prolonged labor and prolonged rupture of membranes
   b. Frequent vaginal exams during labor
   c. Cesarean section
   d. a) and b)
   e. All of the above

3. Postpartum metritis may lead to the following morbidity:
   a. Chronic pelvic pain
   b. Dysmenorrhea, menorrhagia
   c. Infertility
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Continued oral antibiotics after clinical improvement is not necessary in cases of uncomplicated endometritis. ______

5. The risk of postpartum infection is decreased by reducing the number of vaginal exams, the length of labor and the length of time membranes are ruptured. ______
KNOWLEDGE ASSESSMENT: MANAGEMENT OF FEVER AFTER CHILDBIRTH—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Globally, what percentage of women develop infections after childbirth:
   a. < 5%
   b. 5–20%
   c. 25–35%
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   a. Chronic pelvic pain
   b. Dysmenorrhea, Menorrhagia
   c. Infertility
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Continued oral antibiotics after clinical improvement is not necessary in cases of uncomplicated endometritis.  
   TRUE

5. The risk of postpartum infection is decreased by reducing the number of vaginal exams, the length of labor and the length of time membranes are ruptured.  
   TRUE
Objectives

By the end of the session, the learner will be able to:

- Discuss the prevalence of postpartum infection
- Describe risk factors for and diagnosis of postpartum infection
- Discuss strategies for preventing postpartum infection
- Describe clinical treatment approaches
- Describe programmatic approaches for prevention and treatment

Prevalence of Postpartum Infections

<table>
<thead>
<tr>
<th>Country</th>
<th>Author</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepal</td>
<td>NSMP (2002)</td>
<td>11%</td>
</tr>
<tr>
<td>Zaria, Nigeria</td>
<td>Harrison (1985)</td>
<td>7.9%</td>
</tr>
<tr>
<td>Zaria, NG (Home births)</td>
<td>Harrison (1985)</td>
<td>14.9%</td>
</tr>
<tr>
<td>Kenya</td>
<td>Plummer (1994)</td>
<td>20%</td>
</tr>
<tr>
<td>Indonesia (Home births)</td>
<td>Gulardi (2003)</td>
<td>14%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Ngoc (2005)</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

5–20% of women develop a PP infection

Question ??

Please consider during this presentation:

Would you consider the use of the partograph an important intervention for reducing postpartum infection?

- Unclassified 6%
- Other Indirect 12%
- Other Direct 2%
- Embolism 0%
- Ectopic Preg 0%
- Anaemia 13%
- Obstructed Labor 9%
- Abortion 6%
- Sepsis 12%
- Haemorrhage 31%
- Hypertensive 9%

Natural Barriers to Maternal Infection

- Amniotic fluid is a wonderful culture medium!
- Placental membranes form a barrier at the uterine level
- Mucus plug (progesterone-induced) at the cervical level
- Lochia (postpartum discharge) is a natural effluent which keeps pathogens flowing outward
- Increased pelvic blood flow at the systemic level

Question ??

What are some natural barriers to maternal infection?

Risk Factors for Postpartum Infections

- Frequent vaginal examinations
- Prolonged and obstructed labor – Length of Labor
- Pre-labor rupture of membranes – Length of ROM
- Cesarean section (OR at least 2.0)
- Preterm birth
- Episiotomies, vacuum extractions, forceps delivery, uterine revision (any procedure)
- Poor maternal hygiene
- Maternal anemia
- Micronutrient deficiencies
- Sexually transmitted infections
Question ??

What are some causes of fever after childbirth?

Fever after Childbirth: Differential Diagnosis

- Pelvic abscess
- Peritonitis
- Breast engorgement
- Mastitis
- Breast abscess
- Wound morbidity:
  - Wound abscess
  - Wound seroma
  - Wound hematoma
  - Wound cellulitis
- Cystitis
- Acute pyelonephritis
- Deep vein thrombosis
- Pneumonia
- Atelectasis
- Uncomplicated malaria
- Severe/complicated malaria
- Typhoid
- Hepatitis

When you hear hoof beats...

Postpartum Infections and Subsequent Maternal Morbidity

- Pelvic inflammatory disease
- Chronic pelvic pain
- Dysmenorrhea, menorrhagia
- Infertility

Prevention Strategies at the Time of Childbirth

- Reduce the length of labor:
  - Partograph
  - Ambulation
  - Labor support
  - Appropriate controlled augmentation of labor
- Reduce the time of rupture of membranes:
  - Delay artificial rupture of membranes
  - Shorten labor
- Reduce the number of vaginal exams:
  - Partograph helps to schedule VE, limit “duty check”
Prevention Strategies at the Time of Childbirth (cont.)

- Infection prevention practices for every delivery:
  - Handwashing
  - Minimum manipulation
  - High-level disinfected or sterile gloves for examination
  - Avoid unnecessary procedures (e.g., episiotomy)
  - Nothing unclean inside vagina (e.g., traditional practices of inserting twigs, leaves, etc.)

Vitamin A and Postpartum Infections and Mortality

- Low dose Vitamin A given during 2nd and 3rd trimester substantially reduces risk of postpartum infections in populations of Vitamin A deficient women (Dibley, Indonesia 1999)
- Overall, the current evidence is not conclusive enough to warrant Vitamin A supplementation in pregnancy (Kolsteren 2001)
- In populations with Vitamin A deficiency, programs to increase Vitamin A or Beta carotene must be initiated (Villar 2003)

Prevention Strategies in Pregnancy and Labor

- Other possible strategies:
  - Vitamin A supplementation
  - Prophylactic antibiotics (for C-sections)

Providing Prophylactic Antibiotics for Cesarean Section: Cochrane Review

- Objective: To determine which antibiotic regimen is most effective in reducing infectious morbidity in women undergoing cesarean section
- Methods: 51 randomized controlled trials
- Outcomes: Fever, wound infection, urinary tract infection, other serious infections, adverse reactions, cost, newborn outcomes

Providing Prophylactic Antibiotics for Cesarean Section: Cochrane Review (cont.)

Results:
- Ampicillin and 1st generation cephalosporin have similar efficacy in reducing postoperative endometritis:
  - No need for more broad spectrum agents
  - Single dose is same as multiple doses
  - Need randomized controlled trial to test optimal timing (pre-operative vs. at cord clamp)

Managing Metritis: Cochrane Review

- Objective: To assess the effects of different regimens and their complications in the treatment of endometritis
- Methods: 41 randomized controlled trials
- Outcomes: duration of fever, treatment failure, other complications (infectious), drug reaction, costs

Managing Metritis: Cochrane Review (cont.)

Results:
- Combination antibiotics are necessary for metritis
- Should include a penicillin (ampicillin), an aminoglycoside (gentamicin) and clindamycin/metronidazole
- Single daily dosing of gentamicin is effective
- Continued oral antibiotics after clinical improvement is not necessary in cases of uncomplicated endometritis

Case Studies

- Divide participants into groups of 4 or 5
- Give one-third of groups Case Study 1: Fever, one-third of groups Case Study 2: Fever, and the remaining groups Case Study 3: Fever
- Groups will read their case study and answer the questions
- Finally, the group will be reassembled to discuss Case Studies
Antibiotics for Metritis

- IV antibiotics:
  - Ampicillin every 6 hours
  - Gentamicin every 24 hours
  - Metronidazole every 8 hours
- Continue until fever-free for 48 hours
- No oral antibiotics after treatment:
  - Not proven to add any benefit
  - Only add to expense

Postpartum Infections: Summary

- Postpartum infection/sepsis remains an important cause of maternal morbidity and mortality
- Three biggest risk factors are:
  - Prolonged labor, prolonged ROM and multiple exams (Ahhh, the partograph!)
- Most common diagnosis of postpartum fever is:
  - Metritis
- Antibiotics: Less is more!

References

## MODULE 21: BEST PRACTICES IN CARE OF THE NEWBORN WITH PROBLEMS—SESSION PLAN

### MATERNAL AND NEWBORN CARE TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Care of the Newborn with Problems</td>
<td>120 min</td>
</tr>
</tbody>
</table>

### SESSION OBJECTIVES

By the end of this session, participants will be able to:

- Discuss the recognition and management of the newborn needing resuscitation
- Discuss the recognition and management of the low birth weight newborn
- Describe the key elements of Kangaroo Care
- Discuss the recognition and management of sepsis in the newborn

### Methods and Activities

#### Illustrated presentation/discussion: Care of the newborn with problems (30 min)
- Use questions and discussion throughout presentation as indicated on slides.
- Respond to questions as they arise during presentation.
- Be sure to include the following topical areas:
  - Birth preparation
  - Signs of health at birth
  - Immediate care of the newborn
  - Factors associated with asphyxia
  - Determining which baby needs resuscitation
  - Equipment for resuscitation
  - What is not needed for resuscitation
  - Steps in resuscitation
  - Harmful and ineffective practices
  - Infection prevention for resuscitation
  - Documentation
  - Post-resuscitation tasks
  - Warmth of the newborn
  - LBW newborn
  - Premature newborn
  - Kangaroo care:
    - Eligibility
    - How to use
    - Effectiveness
    - Benefits

#### Case study: Newborn with problems (30 min)
- Small group work as described on case study
- General discussion to summarize

#### Clinical simulation: Demonstration and practice (60 min)
- Demonstrate Neonatal Resuscitation, explaining each step as learners follow with Learning Guide: Newborn Resuscitation
- Learners practice with models in groups

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Case Study: Newborn with Problems
- Learning Guide: Newborn Resuscitation
- Checklist: Newborn Resuscitation
- Skills Practice Session: Newborn Resuscitation
- Clinical Simulation: Newborn Resuscitation
- For Clinical Simulation Demonstration and Practice: Examination table
- Newborn resuscitation model
- Suction apparatus
- Self-inflating bag (newborn)
- Newborn face masks
- Clock
- Two blankets or towels for drying/warming
- Cloth for positioning head

### NOTE:
A separate 2-hour session on Kangaroo Mother Care exists. If this session is not used, this Newborn with Problems section may be extended.
CASE STUDY: NEWBORN WITH PROBLEMS

CASE STUDY

Newborn B. is born after a prolonged second stage of labor. The newborn is limp and does not breathe spontaneously. The newborn is dried immediately with a clean, dry cloth, but is still not breathing. The newborn’s mouth and nose are quickly but gently suctioned. Newborn B. is still not breathing.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What information (from the case study above) will help you make a diagnosis or identify the problem/need, and why?

DIAGNOSIS
(Identification of problems/needs)

2. Based on this information, what is the diagnosis, and why?

CARE PROVISION
(Planning and intervention)

3. Based on your diagnosis, what is your plan of care for Newborn B., and why?

EVALUATION

Newborn B. starts to cry within 1 minute of being ventilated, respiration rate is found to be 40 breaths/minute, and there is no chest indrawing.

4. Based on these findings, what is your continuing plan of care for Newborn B., and why?
CASE STUDY: NEWBORN WITH PROBLEMS (QUICK AND CORRECT ACTION FOR NEWBORN RESUSCITATION)—ANSWER KEY

CASE STUDY

Newborn B. is born after a prolonged second stage of labor. The newborn is limp and does not breathe spontaneously. The newborn is dried immediately with a clean, dry cloth, but is still not breathing. The newborn’s mouth and nose are quickly but gently suctioned. Newborn B. is still not breathing.

ASSESSMENT
(History, physical examination, screening procedures/laboratory tests)

1. What information (from the case study above) will help you make a diagnosis or identify the problem/need, and why?
   - Newborn B. did not breathe spontaneously at birth. Most newborns do.
   - Newborn B. did not establish respiration in response to tactile stimulation (drying with a cloth), which is often sufficient to cause the newborn to cry and breathe.
   - Newborn B. did not establish respiration in response to suctioning, which, following tactile stimulation, is often sufficient stimulation to cause the newborn to cry and breathe.

DIAGNOSIS
(Identification of problems/needs)

2. Based on this information, what is the diagnosis, and why?
   - Newborn B.’s signs are consistent with birth asphyxia, probably associated with prolonged second stage of labor.

CARE PROVISION
(Planning and intervention)

3. Based on your diagnosis, what is your plan of care for Newborn B., and why?
   - Ventilation with bag and mask, which is the preferred method of newborn resuscitation, should be undertaken IMMEDIATELY.
   - If bag and mask are not available, a tube and mask device should be used, and if this is not available, mouth to mouth-and-nose breathing should be used.
   - Whichever method of resuscitation is used, the aim should be to establish respiration as soon as possible and preferably within the first minute following birth.
   - Mrs. B. should be told what is happening.
   - To protect the newborn from heat loss during resuscitation, it should be wrapped/covered, leaving the face and upper chest exposed. (Use hat if available.)
   - The newborn’s head should be slightly extended, the mask must cover the chin, mouth and nose, and a seal should be formed between the newborn’s face and the mask.
Once a seal is formed and the chest is rising, ventilation should be at a rate of 40 breaths/minute.

After ventilating for 1 minute, breathing should be quickly assessed:

- If breathing is normal (30–60 breaths/minutes) and there is no chest indrawing or grunting, the newborn should be put in skin-to-skin contact with mother and observed at 15 minute frequent intervals for two hours.
- If Newborn B. is not breathing or breathing is less than 30 breaths/minute or severe chest indrawing is present, ventilation should be continued using oxygen, if available, and transfer for special care should be arranged immediately.

**EVALUATION**

Newborn B. starts to cry within 1 minute of being ventilated, respiratory rate is found to be 40 breaths per minute, and there is no chest indrawing.

**4. Based on these findings, what is your continuing plan of care for Newborn B., and why?**

- Mrs. B. should be provided reassurance and any questions she has should be answered.
- Newborn B.’s temperature should be taken, his respiratory rate counted, and he should be observed for indrawing or grunting at 15 minute intervals until it is assured that there are no further problems with breathing (at least 1 hour.)
- The following information should be recorded on the birth record:
  - Condition of the newborn at birth
  - Procedures necessary to initiate breathing
  - Time from birth to initiation of spontaneous breathing
  - Clinical observations during and after resuscitation measures
  - Outcome of resuscitation measures
# SKILLS PRACTICE SESSION: NEWBORN RESUSCITATION

<table>
<thead>
<tr>
<th><strong>PURPOSE</strong></th>
<th><strong>INSTRUCTIONS</strong></th>
<th><strong>RESOURCES</strong></th>
</tr>
</thead>
</table>
| The purpose of this activity is to enable learners to practice newborn resuscitation using a bag and mask and achieve competency in the skills required. | This activity should be conducted in a simulated setting, using the appropriate model. | The following equipment or representation thereof:  
- Examination table  
- Newborn resuscitation model  
- Two towels or blankets for drying/warming  
- Cloth for positioning head  
- Suction apparatus  
- Self-inflating bag (newborn)  
- Newborn face masks  
- Clock  
- Hat if available |
| Learners should review Learning Guide: Newborn Resuscitation before beginning the activity. | The facilitator/teacher should demonstrate the steps/tasks in the procedure of newborn resuscitation using a bag and mask. Under the guidance of the facilitator/teacher, learners should then work in pairs to practice the steps/tasks and observe each other's performance, using Learning Guide: Newborn Resuscitation. | Learning Guide: Newborn Resuscitation |
| Learners should be able to perform the steps/tasks in Learning Guide Newborn Resuscitation, before skill competency is assessed by the facilitator/teacher in the simulated setting, using Checklist Newborn Resuscitation. | Finally, following supervised practice at a clinical site, the facilitator/teacher should assess the skill competency of each learner, using Checklist Newborn Resuscitation/ | Checklist: Newborn Resuscitation |

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*Best Practices in Maternal and Newborn Care*  
*Module 21: Care of the Newborn with Problems - 5*  
*Learning Resource Package*
CLINICAL SIMULATION: MANAGEMENT OF BIRTH ASPHYXIA

**Purpose:** The purpose of this activity is to provide a simulated experience for learners to practice problem-solving and decision-making skills in the management of birth asphyxia, with emphasis on thinking quickly and reacting (intervening) rapidly.

**Instructions:** The activity should be carried out in the most realistic setting possible, such as a skills lab or the labor and delivery area of a hospital, where equipment and supplies are available for emergency interventions.

- One learner should play the role of skilled provider. Other learners may be called on to assist the provider.
- The facilitator/teacher will give the learner playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.
- The learner will be expected to think quickly and react (intervene) rapidly when the facilitator/teacher provides information and asks questions. Key reactions/responses expected from the learner are provided in the right-hand column of the chart below.
- Procedures such as newborn resuscitation should be performed using a model and other appropriate equipment.
- Initially, the facilitator/teacher and learner will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the learner’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

**Resources:** Learning Guide for Newborn Resuscitation, newborn resuscitation model, newborn Ambu bag and mask, suction equipment, blanket, towels.
### SCENARIO 1
(Information provided and questions asked by the teacher)

1. Mrs. C. has given birth to a 2800 g baby boy after a prolonged second stage of labor. This is her second pregnancy. Her first baby is alive. At birth, the newborn is blue and limp and does not breathe.
   - What do you do?

   - Dries the newborn rapidly, wraps it in a dry cloth/towel and moves it to a warm, flat surface
   - Places the newborn on its back with its head slightly extended to open the airway
   - Keeps the newborn wrapped or covered, except for the face and upper chest
   - Suctions the mouth and then the nose
   - Reassesses the newborn and if still not breathing starts ventilating
   - Places the mask (of the Ambu bag) on the newborn’s face, covering the chin, mouth and nose
   - Forms a seal between the mask and the face
   - Squeezes the bag and checks seal by ventilating twice and observing if the chest rises
   - Simultaneously tells the mother what is happening and provides reassurance
   - Places the mask (of the Ambu bag) on the newborn’s face, covering the chin, mouth and nose
   - Forms a seal between the mask and the face
   - Squeezes the bag and checks seal by ventilating twice and observing if the chest rises
   - Simultaneously tells the mother what is happening and provides reassurance
   - Places the mask (of the Ambu bag) on the newborn’s face, covering the chin, mouth and nose
   - Forms a seal between the mask and the face
   - Squeezes the bag and checks seal by ventilating twice and observing if the chest rises
   - Simultaneously tells the mother what is happening and provides reassurance

   - What precautions about suctioning do you observe, and why?
     - Does not suction deeply, because this may cause the newborn to stop breathing or may cause its heart to stop

2. You have started ventilating, but the newborn’s chest does not rise.
   - What will you do now?

   - Rechecks and corrects, if necessary, the position of the newborn
   - Repositions the mask on the newborn’s face to improve the seal between mask and face
   - Squeezes the bag harder to increase ventilation pressure

3. After repositioning the mask, the newborn’s chest rises when ventilated.
   - What will you do now?

   - Ventilates for 1 minute and then stops to quickly assess if the newborn is breathing

4. After 1 minute of ventilating, the newborn is still not breathing. You remember that Mrs. C. received 100 mg pethidine 40 minutes prior to the birth.
   - What will you do now?

   - Continues ventilating until spontaneous breathing begins
   - States that after vital signs have been established, will give naloxone 0.1 mg/kg body weight IV into the umbilical vein of the newborn

### Discussion Question 1:
From which babies would you withhold naloxone?

**Expected Response:** Babies whose mother is suspected of having recently abused narcotic drugs (as this may cause withdrawal in the addicted infant.)
<table>
<thead>
<tr>
<th>SCENARIO 1</th>
<th>KEY REACTIONS/RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Information provided and questions asked by the teacher)</td>
</tr>
</tbody>
</table>
| 5. After 2 more minutes of ventilating, the newborn starts to cry. | ● Stops ventilating and observes for 5 minutes after crying stops  
● Determines that breathing is normal (30–60 breaths/minute) and that there is no indrawing of the chest and no grunting for 1 minute |
| ● What will you do now? | |
| **Discussion Question 2:** What would you do if the newborn is breathing but has severe indrawing of the chest? | **Expected Response:** Give oxygen by nasal catheter or prongs, if possible, and arrange transfer to a facility with special care for sick newborns. |
| 6. The newborn is now breathing normally.  
● What ongoing care does the newborn need? | ● Prevents heat loss by placing in skin-to-skin contact with mother or putting under radiant heater  
● Examines the newborn and counts the number of breaths/minute every 15 min for 1-2 hours  
● Measures the newborn’s axillary temperature  
● Encourages the mother to breastfeed and provides reassurance (A newborn that requires resuscitation is at higher risk of developing hypoglycemia.)  
● Monitors closely for 24 hours |
LEARNING GUIDE: NEWBORN RESUSCITATION
(To be used by Participants)

Place a “✓” in case box if task/activity is performed **satisfactorily**, an “X” if it is **not** performed **satisfactorily**, or N/O if not observed.

**Satisfactory**: Performs the step or task according to the standard procedure or guidelines

**Unsatisfactory**: Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed**: Step, task or skill not performed by learner during evaluation by teacher

<table>
<thead>
<tr>
<th>LEARNING GUIDE FOR NEWBORN RESUSCITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Many of the following steps/tasks should be performed simultaneously.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong>: Newborn resuscitation equipment should be available and ready for use at all births. Hands should be washed and gloves worn before touching the newborn.</td>
<td></td>
</tr>
<tr>
<td>1. Quickly dry and wrap or cover the newborn, except for the head, face and upper chest.</td>
<td></td>
</tr>
<tr>
<td>2. Place the newborn on its back on a clean, warm surface.</td>
<td></td>
</tr>
<tr>
<td>3. Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.</td>
<td></td>
</tr>
<tr>
<td>4. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td><strong>RESUSCITATION USING BAG AND MASK</strong></td>
<td></td>
</tr>
<tr>
<td>1. Position the head in a slightly extended position to open the airway.</td>
<td></td>
</tr>
<tr>
<td>2. Clear the airway by suctioning the mouth first and then the nose:</td>
<td></td>
</tr>
<tr>
<td>● Introduce catheter no more than 5 cm into the newborn’s mouth and suction while withdrawing catheter.</td>
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</tr>
<tr>
<td>● Introduce catheter no more than 3 cm into each nostril and suction while withdrawing catheter.</td>
<td></td>
</tr>
<tr>
<td>● Do not suction deep in the throat because this may cause the newborn’s heart to slow or breathing to stop.</td>
<td></td>
</tr>
<tr>
<td>● Be especially thorough with suctioning if there is blood or meconium in the newborn’s mouth and/or nose.</td>
<td></td>
</tr>
<tr>
<td>● If the newborn is still not breathing, start ventilating.</td>
<td></td>
</tr>
<tr>
<td>3. Quickly recheck the position of the newborn’s head to make sure that the neck is slightly extended.</td>
<td></td>
</tr>
<tr>
<td>4. Place the mask on the newborn’s face so that it covers the chin, mouth and nose.</td>
<td></td>
</tr>
<tr>
<td>5. Form a seal between the mask and the newborn’s face.</td>
<td></td>
</tr>
<tr>
<td>6. Squeeze the bag with two fingers only or with the whole hand, depending on the size of the bag.</td>
<td></td>
</tr>
<tr>
<td>7. Check the seal by ventilating two times and observing the rise of the chest.</td>
<td></td>
</tr>
<tr>
<td>8. If the newborn’s chest is rising:</td>
<td></td>
</tr>
<tr>
<td>● Ventilate at a rate of 40 breaths/minute.</td>
<td></td>
</tr>
<tr>
<td>● Observe the chest for an easy rise and fall.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>9. If the newborn’s chest is not rising:</td>
<td></td>
</tr>
<tr>
<td>• Check the position of the head again to make sure the neck is slightly extended.</td>
<td></td>
</tr>
<tr>
<td>• Reposition the mask on the newborn’s face to improve the seal between mask and face.</td>
<td></td>
</tr>
<tr>
<td>• Squeeze the bag harder to increase ventilation pressure.</td>
<td></td>
</tr>
<tr>
<td>• Repeat suction of mouth and nose to remove mucus, blood or meconium from the airway.</td>
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</tr>
<tr>
<td>10. Ventilate for 1 minute and then stop and quickly assess if the newborn is breathing spontaneously.</td>
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</tr>
<tr>
<td>11. If breathing is normal (30–60 breaths/minute) and there is no indrawing of the chest and no grunting:</td>
<td></td>
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<tr>
<td>• Put in skin-to-skin contact with mother.</td>
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<tr>
<td>• Observe breathing at frequent intervals.</td>
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</tr>
<tr>
<td>• Measure the newborn’s axillary temperature and rewarm if temperature is less than 36°C.</td>
<td></td>
</tr>
<tr>
<td>• Keep in skin-to-skin contact with mother if temperature is 36°C or less.</td>
<td></td>
</tr>
<tr>
<td>• Encourage mother to begin breastfeeding.</td>
<td></td>
</tr>
<tr>
<td>12. If newborn is breathing but severe chest indrawing is present:</td>
<td></td>
</tr>
<tr>
<td>• Ventilate with oxygen, if available.</td>
<td></td>
</tr>
<tr>
<td>• Arrange immediate transfer for special care.</td>
<td></td>
</tr>
<tr>
<td>13. If there is no gasping or breathing at all after 20 minutes of ventilation, stop ventilating.</td>
<td></td>
</tr>
</tbody>
</table>

**POSTPROCEDURE TASKS**

<table>
<thead>
<tr>
<th>TASK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dispose of disposable suction catheters and mucus extractors in a leak-proof container or plastic bag. Catheters and mucus extractors that are not disposable should be filled with 0.5% chlorine solution and soaked for 10 minutes.</td>
<td></td>
</tr>
<tr>
<td>2. For reusable catheters and mucus extractors:</td>
<td></td>
</tr>
<tr>
<td>• Place in 0.5% chlorine solution for 10 minutes for decontamination.</td>
<td></td>
</tr>
<tr>
<td>• Wash in water and detergent.</td>
<td></td>
</tr>
<tr>
<td>• Use a syringe to flush catheters/tubing.</td>
<td></td>
</tr>
<tr>
<td>• Boil or disinfect in an appropriate chemical solution.</td>
<td></td>
</tr>
<tr>
<td>3. Take the valve and mask apart and inspect for cracks and tears.</td>
<td></td>
</tr>
<tr>
<td>4. Wash the valve and mask and check for damage first with 0.5% chlorine solution and then with water and detergent and rinse. (Some types of masks may be soaked for 10 minutes in chlorine solution without damage.)</td>
<td></td>
</tr>
<tr>
<td>5. Select a method of sterilization or high-level disinfection:</td>
<td></td>
</tr>
<tr>
<td>• Silicone and rubber bags and patient valves can be boiled for 10 minutes, autoclaved at 136°C or disinfected in an appropriate chemical solution (this may vary depending on the instructions provided by the manufacturer).</td>
<td></td>
</tr>
<tr>
<td>6. Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.</td>
<td></td>
</tr>
<tr>
<td>7. After chemical disinfection, rinse all parts with clean water and allow to air dry.</td>
<td></td>
</tr>
<tr>
<td>8. Reassemble the bag.</td>
<td></td>
</tr>
</tbody>
</table>
# LEARNING GUIDE FOR NEWBORN RESUSCITATION

(Many of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Test the bag to make sure that it is functioning:</td>
<td></td>
</tr>
<tr>
<td>• Block the valve outlet by making an airtight seal with the palm of your hand and observe if the bag re-inflates when the seal is released.</td>
<td></td>
</tr>
<tr>
<td>• Repeat the test with the mask attached to the bag.</td>
<td></td>
</tr>
</tbody>
</table>

## DOCUMENTING RESUSCITATION PROCEDURES

1. Record the following details:
   • Condition of the newborn at birth
   • Procedures necessary to initiate breathing
   • Time from birth to initiation of spontaneous breathing
   • Clinical observations during and after resuscitation measures
   • Outcome of resuscitation measures
   • In case of failed resuscitation measures, possible reasons for failure
   • Names of providers involved
CHECKLIST: NEWBORN RESUSCITATION
(To be used by the Facilitator/Teacher at the end of the module)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GETTING READY</strong></td>
<td></td>
</tr>
<tr>
<td>1. Quickly wrap or cover the newborn and place on a clean, warm surface.</td>
<td></td>
</tr>
<tr>
<td>2. Tell the woman (and her support person) what is going to be done and encourage them to ask questions.</td>
<td></td>
</tr>
<tr>
<td>3. Provide continual emotional support and reassurance, as feasible.</td>
<td></td>
</tr>
<tr>
<td><strong>RESUSCITATION USING BAG AND MASK</strong></td>
<td></td>
</tr>
<tr>
<td>1. Position the head in a slightly extended position to open the airway.</td>
<td></td>
</tr>
<tr>
<td>2. Clear the airway by suctioning the mouth and nose.</td>
<td></td>
</tr>
<tr>
<td>3. Position the newborn’s neck and place the mask on the newborn’s face so that it covers the chin, mouth and nose. Form a seal between mask and newborn’s face.</td>
<td></td>
</tr>
<tr>
<td>4. Ventilate at a rate of 40 breaths/minute for 1 minute and then stop and quickly assess if the newborn is breathing spontaneously.</td>
<td></td>
</tr>
<tr>
<td>5. If breathing is normal, and there is no indrawing of the chest and no grunting, put in skin-to-skin contact with mother.</td>
<td></td>
</tr>
<tr>
<td>6. If newborn is not breathing, breathing is less than 30 breaths/minute or severe chest indrawing is present, ventilate with oxygen if available. Arrange immediate transfer for special care.</td>
<td></td>
</tr>
<tr>
<td>7. If there is no gasping or breathing at all after 20 minutes of ventilation, stop ventilating.</td>
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<td><strong>POSTPROCEDURE TASKS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Place disposable suction catheters and mucus extractors in a leak-proof container or plastic bag. Place reusable catheters and mucus extractors in 0.5% chlorine solution for decontamination. Then, clean and process.</td>
<td></td>
</tr>
<tr>
<td>STEP/TASK</td>
<td>CASES</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>2. Clean and decontaminate the valve and mask and check for damage.</td>
<td></td>
</tr>
<tr>
<td>3. Wash hands thoroughly.</td>
<td></td>
</tr>
<tr>
<td>4. Record pertinent information on the mother’s/newborn’s record.</td>
<td></td>
</tr>
</tbody>
</table>

**SKILL/ACTIVITY PERFORMED SATISFACTORILY**
KNOWLEDGE ASSESSMENT: MANAGING THE NEWBORN WITH PROBLEMS

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The percentage of newborns needing resuscitation is:
   a. < 2%
   b. 3–10 %
   c. 15–25%
   d. 25–30%

2. The first step in resuscitation of a newborn is:
   a. Ventilate
   b. Open the airway
   c. Assess heart rate

3. Resuscitation is not necessary if the newborn:
   a. Has a heart rate of > 100 beats/minute
   b. Has a heart rate of > 120 beats/minute
   c. Has a respiratory rate > 30L/minute
   d. Has a respiratory rate > 20/minute

4. The benefits of Kangaroo care for the preterm or low birth weight newborn are:
   a. Keeps infant warm and helps breathing be more regular
   b. Promotes breastfeeding
   c. Promotes growth and extra-uterine adaptation
   d. a) and b)
   e. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The first assessment when a baby is born should be an assessment of the baby’s heart rate.  

   _____

6. Room air, rather than oxygen, is sufficient for resuscitation in most cases.  

   _____

7. An infant born before 37 weeks is considered “preterm.”  

   _____

8. The preterm or low birth weight newborn requires initial feedings of glucose solution in addition to breast milk.  

   _____
9. Periods of apnea > 20 seconds or difficulty waking a newborn may be signs of sepsis. 

10. Sepsis is the primary diagnosis for newborns with multiple findings.
KNOWLEDGE ASSESSMENT: MANAGING THE NEWBORN WITH PROBLEMS—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. The percentage of newborns needing resuscitation is:
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Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. The first assessment when a baby is born should be an assessment of the baby’s heart rate.       FALSE

6. Room air, rather than oxygen, is sufficient for resuscitation in most cases.                   TRUE

7. An infant born before 37 weeks is considered “preterm.”                                      TRUE

8. The preterm or low birth weight newborn requires initial feedings of glucose solution in addition to breast milk.   FALSE
9. Periods of apnea > 20 seconds or difficulty waking a newborn may be signs of sepsis.  TRUE

10. Sepsis is the primary diagnosis for newborns with multiple findings.  TRUE
Session Objectives

By the end of the session, the learner will be able to:
- Discuss key elements in recognizing the newborn with problems
- Discuss the recognition and management of the newborn needing resuscitation
- Discuss the recognition and management of the low birth weight newborn
- Describe the key elements of Kangaroo Care
- Discuss the recognition and management of sepsis in the newborn

Management of Newborn Problems

- Education of families to recognize danger signs
- Working with families to develop/revise complication readiness plan
- Early recognition and appropriate management:
  - Preparation at every birth
  - Immediate assessment and care
  - Resuscitation if needed
  - Special care for LBW, premature and sick newborns

Minimum Preparation for EVERY Birth

These should be available and in working order:
- Two blankets or towels plus small cloth to position head
- Heat source
- Mucus extractor
- Self-inflating bag of newborn size
- 2 masks (for normal and small newborns)
- 1 clock (or watch)
- At least one person skilled in newborn resuscitation present at birth
**Signs of Good Health at Birth**

**Objective measures:**
- Breathing**
- Heart rate above 100 beats/minute

**Subjective measures:**
- Vigorous cry
- Pink skin
- Good muscular tone
- Good reactions to stimulus

**Assessing breathing FIRST; Taking time to assess all of the above delays resuscitation if needed**

---

**Case Study**

- Divide participants into groups of 3 or 4
- Each group should read the Case Study: Newborn with Problems and answer the questions
- Reassemble the group to discuss the answers

---

**Immediate Care of the Newborn**

- Assess breathing
- Keep head in a neutral position
- IMMEDIATELY assess respirations and need for resuscitation

---

**Birth Asphyxia**

- **Definition:** Failure to initiate and sustain breathing at birth
- **Magnitude:**
  - 3% of 120 million newborns each year in developing countries develop birth asphyxia and require resuscitation
  - An estimated 900,000 of these newborns die as a result of asphyxia
Factors Associated with Asphyxia

- Fetal distress:
  - Meconium
  - Abnormal presentation
- Prolonged or obstructed labor:
  - Prolonged rupture of membranes
- Complicated, traumatic or instrumental delivery
- Severe maternal infections
- Maternal sedation, analgesia or anesthesia
- Antenatal or intrapartal hemorrhage
- Preterm or post-term birth
- Congenital anomalies

WHO 1998.

Who Will Need Resuscitation?

- About 3–10% of all newborns
- Sometimes the need for resuscitation can be predicted, but often it cannot, so...

PREPARE FOR RESUSCITATION AT EVERY BIRTH

Equipment

What about….?

- Oxygen
  - Room air is sufficient in most cases

Cardiac Massage

- Dangerous when done incorrectly
- Slow heart rates in NB almost always respond to breathing assistance only

Drugs

- Very rarely needed if prompt and sufficient ventilation provided
Steps in Resuscitation

- Anticipate need for resuscitation at every birth; be prepared with equipment in good condition
- Prevent heat loss (dry newborn and remove wet clothes)
- Assess breathing
- Resuscitate:
  - Open airway:
    - Position newborn
    - Clear airway
  - Ventilate
  - Evaluate

Assess Breathing

- Newborn crying?
  - Yes
    - Provide routine care
  - No
    - Chest is rising symmetrically
    - Frequency > 30 breaths/min.
    - Not breathing/gasping
    - Breathing < 30 breaths/min.
    - If not breathing/gasping:
      - Provide routine care
      - Immediately start resuscitation

Open Airway

- Position newborn on its back
- Place head in slightly extend position
- Suction mouth then nostrils:
  - 5 cm into the mouth
  - 3 cm into each nostril
  - Do not suction deep into the throat as this may cause the heart to slow or breathing to stop

Ventilate

- Select appropriate mask size to cover chin, mouth and nose with a good seal
- Squeeze bag with two fingers or whole hand; look for chest to rise
- If chest not rising:
  - Reposition head and mask
  - Increase ventilation
  - Repeat suctioning
Evaluate

After ventilating for about 1 minute, stop and look for spontaneous breathing.

If no breathing, breathing is slow (< 30 breaths/ min.) or is weak with severe indrawing.

If newborn starts crying/breathing spontaneously:
- Stop ventilating
- Do not leave newborn
- Observe breathing
- Put newborn skin-to-skin with mother and cover them both

Continue ventilating until spontaneous cry/breathing begins.

Harmful and Ineffective Resuscitation Practices

Practices to be avoided include:
- Routine aspiration of the newborn’s mouth and nose as soon as the head is born
- Routine aspiration of the newborn’s stomach at birth
- Stimulation of the newborn by slapping or flicking the soles of her/his feet: only enough stimulation for mildly depressed-delays resuscitation
- Postural drainage and slapping the back: dangerous

Harmful and Ineffective Resuscitation Practices (cont.)

- Squeezing the chest to remove secretions from the airway
- Routine giving of sodium bicarbonate to newborns who are not breathing
- Intubation by an unskilled person
- Some traditional practices:
  - Putting alcohol in newborn’s nose
  - Sprinkling or soaking newborn with cold water
  - Stimulating anus
  - Slapping the newborn

Infection Prevention for Resuscitation

- Handwashing
- Use of gloves
- Careful suctioning if using a mucus extractor operated by mouth
- Careful cleaning and disinfection of equipment and supplies:
  - Do not reuse bulb—difficult to clean, poses risk of cross-infection
- Correct disposal of secretions

Documentation

Details of the resuscitation to be recorded include:
- Identification of newborn
- Condition at birth
- Procedures necessary to initiate breathing
- Time from birth to initiation of spontaneous breathing
- Clinical observations during and after resuscitation
- Outcome of resuscitation
- In case of failed resuscitation, possible reasons for failure
- Names of health care providers involved

Post-Resuscitation Tasks: Successful Resuscitation

- Do not separate mother and newborn
- Leave newborn skin-to-skin with mother
- Measure temperature, count breaths, observe for in-drawing and grunting every 15 minutes for 2 hours
- Encourage breastfeeding within 1 hour after birth

Post-Resuscitation Tasks: Unsuccessful Resuscitation

- Inform patients fully
- Provide counseling, as needed
- If culturally appropriate, allow parents private time with dead newborn
- Burial should be arranged according to regulations and parents’ wishes

Summary of Resuscitation: Principles of Success

- Readily available personnel
- Skilled providers
- Coordinated team
- Resuscitation tailored to newborn response
- Available and functioning equipment
- Avoidance of harmful and ineffective practices
- Follow rules for infection prevention
Immediate Care of the Newborn: Warmth

- Lay newborn on mother’s abdomen or other warm surface
- Immediately dry newborn with clean (warm) cloth or towel
- Remove wet towel and wrap/cover newborn, except for face and upper chest, with a second towel/cloth

Immediate Care of the Newborn: Warmth (cont.)

- Delay bath for at least 24 hours.
- Blood and amniotic fluid on newborn are not a risk to newborn, but are a risk to caregiver. Wear gloves and an apron when caring for the newborn.
- In areas with high HIV prevalence, consider bathing earlier to reduce risk of maternal-fetal transmission, and to reduce risk to caregiver and to other newborns.

The Low Birth Weight Newborn

- Birth weight = Gestation duration + intrauterine growth
- Less than 2500g:
  - Most low birth weight newborns in developing countries are term or near term (small for gestation age)
  - Increased risk of hypothermia, hypoglycemia and poor growth

The Preterm Newborn

- Born before 37 weeks
- Associated problems with prematurity:
  - Feeding
  - Respiratory
  - Jaundice
  - Intracranial bleed
  - Hypoglycemia
  - Temperature instability
# Principles of Management for Low Birth Weight and Preterm Newborns

For **stable** LBW and preterm newborns:

- **Warmth**
- **Feeding**
- Detection and management of complications

---

## Feeding

**Early and exclusive breastfeeding:**

- Breast milk = best nourishment
- Already warm temperature (if given directly from breast)
- Facilitated by kangaroo care

---

## Warmth

**As for all newborns:**

- Lay newborn on mother’s abdomen or other warm surface
- Dry newborn with clean (warm) cloth or towel
- Remove wet towel and wrap/cover (including the head) with a second dry towel
- Bathe after temperature is stable

---

## Warmth: Problem with Incubators

- Potential source of infection
- Often temperature controls malfunction
- Often share incubator for more than one newborn
- Often not the best method for keeping baby warm
- Need alternative method: skin-to-skin care
Definition of Kangaroo or Skin-to-Skin Care

- Early, prolonged and continuous skin-to-skin contact between a mother and her low birth weight newborn
- This could begin in the facility or after early discharge and continue at home

Eligibility for Continuous Kangaroo Mother Care

- Willingness of mother to do KMC
- Baby should be in stable condition:
  - No major illness present such as sepsis, pneumonia, meningitis, respiratory distress, convulsions
  - (Intermittent KMC under observation can be used for sick baby until baby is fully stable.)

How to Use Kangaroo Care

- Newborn’s position:
  - Held upright (or diagonally) and prone against skin of mother, between her breasts
  - Head is on its side under mother’s chin, and head, neck and trunk are well extended to avoid obstruction to airways
- Newborn’s clothing:
  - Usually naked except for nappy and cap
  - May be dressed in light clothing
  - Mother covers newborn with her own clothes and added blanket or shawl

How to Use Kangaroo Care (cont.)

- Newborn should be:
  - Breastfed on demand
  - Supervised closely and temperature monitored regularly
- Mother needs lots of support because kangaroo care:
  - Is very tiring for her
  - Restricts her freedom
  - Requires commitment to continue
Effectiveness of Kangaroo Care

- Randomized controlled trial
- Conducted in three tertiary and teaching hospitals in Ethiopia, Indonesia and Mexico
- Study effectiveness, feasibility, acceptability and cost of Kangaroo Mother Care when compared to conventional methods of care


Benefits of Kangaroo Care

- Is efficient way of keeping newborn warm
- Helps breathing of newborn to be more regular; reduces frequency of apneic spells
- Promotes breastfeeding, growth and extra-uterine adaptation
- Increases the mother’s confidence, ability and involvement in the care of her small newborn
- Seems to be acceptable in different cultures and environments
- Contributes to containment of cost—salaries, running costs (electricity, etc.)


General Principles

- Sepsis can appear any time from birth to end of newborn period
- Sepsis is primary diagnosis for babies with multiple findings
- Sepsis is more likely if associated with history of rupture of membrane for 18 hours or longer
- Signs of sepsis and asphyxia can coexist

Types of Newborn Infections

- Localized:
  - Umbilical cord infection – No pus/discharge with enduration less than 1 cm; no signs of sepsis
  - Skin infection – Fewer than 10 pustules or covering less than half the body
  - Eye infection – No pus, more than 7 days old
- General sepsis – infections more serious than the above or with signs of sepsis
General Sepsis

Signs may be difficult to recognize because they are not specific, but may include:
- Difficulty waking the baby
- Not able to suck
- Rapid or slow breathing or indrawing
- Periods of apnea > 20 seconds
- Pale, gray or blue color
- Rigid or limp limbs
- Severe jaundice
- Distended abdomen
- Signs of severe eye, skin or cord infection

Care for Newborn with Sepsis

- Give starting dose of antibiotics:
  - For a baby 2 kg or more: Ampicillin 50 mg/kg IM and gentamicin 5 mg/kg IM
  - For a baby < 2 kg: Ampicillin 50 mg/kg IM and gentamicin 4 mg/kg IM
- Refer, following referral guidelines
- Encourage breastfeeding, but use cup or spoon or syringe if unable to suck
- Keep baby warm
  - If referral is impossible, continue antibiotics for 10–14 days, giving ampicillin every 12 hrs if < 7 days old and every 8 hrs if > 7 days old and giving gentamicin once daily.

Summary

- Skilled care at all births when possible
- Have equipment available and working
- Quick assessment (breathing, etc.)
- Begin resuscitation immediately if needed:
  - Ventilate
  - Reassess frequently
- Skin-to-skin care to keep baby warm—especially LBW babies
- Sepsis is the primary diagnosis for the newborn with multiple findings

References

References (cont.)

### SESSION OBJECTIVES

**By the end of this session, participants will be able to:**
- Define Kangaroo Mother Care (KMC)
- Describe the benefits of KMC
- Assist and counsel the mother in the use of KMC

### Methods and Activities

**Illustrated presentation/discussion: Best practices in Kangaroo Mother Care (30 min)**
- Use questions and discussion throughout presentation as indicated on slides.
- Cover the following:
  - Objectives of session
  - Definition of Kangaroo Mother Care
  - Benefits of KMC to the baby
  - Benefits of KMC to the mother
  - Step-by-step use of KMC
  - Counseling for mother/family

**Skills demonstration and practice/role play: Kangaroo Mother Care (90 min)**
- Demonstration (can be incorporated into presentation/discussion)
- Practice: Divide participants into groups of three. One participant reads learning guide, one acts as the mother and one helps mother to do KMC. The three should each rotate into each role.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Learning Guide for KMC
- Checklist for KMC
- Learning aids:
  - What is Kangaroo Mother Care?
  - How Does KMC Help the Baby and Mother?
  - Pictorial on How to Wrap Baby
- Long cloth
- Doll baby
### SKILLS PRACTICE SESSION: KANGAROO MOTHER CARE

<table>
<thead>
<tr>
<th>PURPOSE</th>
<th>INSTRUCTIONS</th>
<th>RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The purpose of this activity is to enable learners to practice assisting a mother in the use of KMC.</td>
<td>This activity should be conducted in a simulated setting. Learners should review Learning Guide for: Kangaroo Mother Care before beginning the activity. The facilitator/teacher should demonstrate the steps/tasks in each learning guide one at a time, having one of the students play the role of the mother. The facilitator/teacher must explain each step of procedure and any cautions associated with each step. Under the guidance of the facilitator/teacher, learners should then work in groups of three and practice the steps/tasks in the Learning Guide and observe each other’s performance; while one learner acts as a mother, the second learner reads the learning guide while the third student assists the mother with KMC. Learners should then reverse roles. Learners should be able to perform the steps/tasks in the Checklist before skills competency is assessed in a simulated setting.</td>
<td>• Learning Guide for KMC • Long piece of cloth • Baby doll Learning Guide: Kangaroo Mother Care Learning Guide: Kangaroo Mother Care Checklist: Kangaroo Mother Care</td>
</tr>
</tbody>
</table>
LEARNING GUIDE: KANGAROO MOTHER CARE
(To be used by Participants)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

<table>
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<td>GETTING READY</td>
<td></td>
</tr>
<tr>
<td>1. Prepare the necessary equipment.</td>
<td></td>
</tr>
</tbody>
</table>
| 2. Explain to the mother (and her support person) the benefits of KMC:  
  • Newborn’s breathing becomes more regular and stable.  
  • Newborn’s temperature becomes normal and stable.  
  • Newborn’s immunity is improved.  
  • Infections of newborn are reduced.  
  • Newborn breastfeeds better and gains weight faster.  
  • Mother/parent becomes more attached to her baby emotionally.  
  • Mother/parent feels more confident caring for small, fragile newborn. | |
| 3. Tell the mother (and her support person) what is going to be done. | |
| 4. Listen to her/their questions and respond attentively. | |
| 5. Place baby between mothers breasts:  
  • Mother and newborn chest-to-chest  
  • Newborn’s feet below mother’s breasts  
  • Newborn’s hands above mother’s breasts  
  • Place cloth between baby’s legs to collect urine and stool | |
| 6. Wrap the mother and newborn together:  
  • Use a long piece of cloth.  
  • Put the center of the cloth over the newborn’s and mother’s chest.  
  • Wrap both ends of the cloth around the mother, under her arms, to her back.  
  • Cross cloth ends behind mother and tie ends in secure knot.  
  • If the cloth is too long, bring both ends of cloth to front and tie the ends in a knot under the newborn.  
  • Wrap should be tight so the newborn does not slip out when the mother stands, but leaves room for the newborn to breathe.  
  • Support the newborn’s head by pulling the wrap up to just under the newborn’s ear. | |
<p>| 7. Have the mother put on a loose blouse or dress over the baby. | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>8. Explain to the mother/caretaker:</td>
<td></td>
</tr>
<tr>
<td>• That to sleep, she should keep her upper body raised (about 30 degrees)</td>
<td></td>
</tr>
<tr>
<td>to keep the baby in a head-up position</td>
<td></td>
</tr>
<tr>
<td>• That to breastfeed, she should loosen cloth and feed newborn on demand,</td>
<td></td>
</tr>
<tr>
<td>at least every 2 hours</td>
<td></td>
</tr>
<tr>
<td>• To use KMC continuously</td>
<td></td>
</tr>
<tr>
<td>• That another family member may replace her for skin-to-skin contact for</td>
<td></td>
</tr>
<tr>
<td>short periods of time</td>
<td></td>
</tr>
<tr>
<td>• To continue KMC until the baby weighs at least 2500 grams</td>
<td></td>
</tr>
</tbody>
</table>
CHECKLIST: KANGAROO MOTHER CARE
(To be used by the Facilitator/Teacher at the end of the module)

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step or task not performed by participant during evaluation by facilitator/teacher

Participant _____________________________________ Date Observed ________________

CHECKLIST FOR KANGAROO MOTHER CARE
(Many of the following steps/tasks should be performed simultaneously.)

<table>
<thead>
<tr>
<th>STEP/TASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASES</td>
</tr>
</tbody>
</table>

GETTING READY

1. Prepare the necessary equipment.

2. Explain to the mother (and her support person) the benefits of KMC.

3. Tell the mother (and her support person) what is going to be done.

4. Listen to her/their questions and respond attentively.

5. Place baby between mother’s breasts.

6. Wrap the mother and newborn together using a long cloth, and tie the ends of the cloth behind the mother in a secure knot.

7. Have the mother put on a loose blouse or dress over the baby.

8. Explain to the mother/caretaker:
   • That to sleep, she should keep her upper body raised (about 30 degrees) to keep the baby in a head-up position
   • That to breastfeed, she should loosen cloth and feed newborn on demand, at least every 2 hours
   • To use KMC continuously
   • That another family member may replace her for skin-to-skin contact for short periods of time
   • To continue KMC until the baby weighs at least 2500 grams

SKILL/ACTIVITY PERFORMED SATISFACTORILY
KNOWLEDGE ASSESSMENT: KANGAROO MOTHER CARE

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Kangaroo Mother Care includes all of the following except:
   a. Use with a premature or small for dates baby
   b. Skin-to-skin contact between mother and baby
   c. Separating the mother and baby only when something needs to be done to one of them
   d. Exclusive breastfeeding

2. Benefits of KMC to the baby include:
   a. Breathing becomes regular and stable
   b. Temperature becomes normal and stable
   c. Skin becomes softer and smoother
   d. a) and b)
   e. All of the above

3. For KMC, the baby is positioned between the mother’s breasts:
   a. With the chest of the baby touching the chest of the mother
   b. With the baby’s hands below the mother’s breasts
   c. With a cloth between the baby’s legs

4. For KMC, the cloth that secures the baby onto the mother:
   a. Should tie in front of the mother
   b. Should be short and square
   c. Should support the baby’s head by pulling the wrap up to just under the baby’s ear

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. When the mother needs to sleep, the baby should be removed from skin-to-skin contact on the mother’s chest to prevent smothering.  
   _____

6. Another family member may replace the mother for skin-to-skin contact for short periods of time.  
   _____
KANGAROO MOTHER CARE: KNOWLEDGE ASSESSMENT—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Kangaroo Mother Care includes all of the following except:
   a. Use with a premature or small for dates baby
   d. Skin-to-skin contact between mother and baby
   c. Separating the mother and baby only when something needs to be done to one of them
   d. Exclusive breastfeeding

2. Benefits of KMC to the baby include:
   a. Breathing becomes regular and stable
   b. Temperature becomes normal and stable
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3. For KMC the baby is positioned between the mother’s breasts:
   a. With the chest of the baby touching the chest of the mother
   b. With the baby’s hands below the mother’s breasts
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   a. Should tie in front of the mother
   b. Should be short and square
   c. Should support the baby’s head by pulling the wrap up to just under the baby’s ear

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

5. When the mother needs to sleep, the baby should be removed from skin-to-skin contact on the mother’s chest to prevent smothering. FALSE

6. Another family member may replace the mother for skin-to-skin contact for short periods of time. TRUE
Session Objectives

- Define Kangaroo Mother Care (KMC)
- Describe the benefits of KMC
- Assist and counsel the mother in the use of KMC

Question ??

- What is Kangaroo Mother Care?

Kangaroo Mother Care

- Is used for small for dates or premature infants
- Has three parts:
  1. Skin-to-skin contact between the baby’s front and the mother’s chest – starts at birth and continues day and night
  2. Exclusive breastfeeding – begins right after birth and continues “on demand,” at least every 2 hours
  3. Support to the mother and baby – whatever the mother or baby needs is done without separating them
KMC Helps the Baby

- Breathing becomes regular and stable
- Temperature becomes normal and stable
- Immunity is improved
- Infections are reduced
- Breastfeeds better
- Gains weight

KMC Benefits the Mother

- Helps her to bond with her baby
- Helps her feel confident in caring for a small, fragile newborn
**Question ??**

- Who wants to demonstrate KMC?
  
The teacher will provide a doll and a long cloth. If no one in the class can demonstrate, the teacher will demonstrate on a student.

---

**How to Use KMC**
(Use the Learning Guide to Guide the Demonstration)

- Put the baby between the mother’s breasts
- Wrap the baby and mother together
- Tie the ends of the cloth into a secure knot behind the mother
- Have the mother put on a loose blouse or dress over the baby

---

**Advice to the Mother/Family**

- To sleep, the mother should keep her body raised about 30 degrees so the baby is in a heads-up position
- Use KMC continuously
- Breastfeed on demand, at least every 2 hrs
- Another family member can replace the mother for short periods of time
- Continue KMC until the baby weighs at least 2,500 grams
# MATERNAL AND NEWBORN CARE: TECHNICAL UPDATE

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Midwifery Education: Opportunities and Challenges</td>
<td>45 min</td>
</tr>
</tbody>
</table>

## SESSION OBJECTIVES

*By the end of this session, participants will be able to:
- Discuss goals in educating midwives
- Define core competencies and their role in curriculum development and design
- List the challenges in educating midwives, and some possible ways to address these challenges

## Methods and Activities

**Illustrated presentation/discussion: Opportunities and challenges in midwifery education (45 min)**
- Ask questions of the larger group throughout the session to elicit their experiences as midwifery educators.
- Intersperse presentation with questions, examples and discussion.
- Be sure to cover the following topical areas:
  - Roles of midwives
  - Professional development continuum
  - Core competencies
  - Characteristics of effective teaching
  - Learning approaches
  - Challenges in midwifery education
- Summarize key points.

## Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
**KNOWLEDGE ASSESSMENT: MIDWIFERY EDUCATION: OPPORTUNITIES AND CHALLENGES**

**Instructions:** Write the letter of the single **best** answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Core competencies in midwifery education:
   a. Encompass skills that extend beyond those that are common to all students
   b. Should be essential for graduation
   c. Encompass psychomotor skills but do not pertain to knowledge or attitudes

2. Effective midwifery education:
   a. Does not need to focus on the theoretical learning since the practical performance of core competencies is the goal
   b. Includes a balance of theoretical and practical experiences
   c. Uses learning guides and checklists for the development of decision-making and problem-solving skills

**Instructions:** In the space provided, print a capital **T** if the statement is **true** or a capital **F** if the statement is **false**.

3. Teaching and learning are more effective when students actively participate in their learning.  

   ____

4. Teaching and learning are more effective when feedback on students’ performance is delayed at least 1 day and when students are punished for incorrect performance.  

   ____

5. Students should not be given their core competencies until the month before their final examination.  

   ____
KNOWLEDGE ASSESSMENT: MIDWIFERY EDUCATION: OPPORTUNITIES AND CHALLENGES—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Core competencies in midwifery education:
   a. Encompass skills that extend beyond those that are common to all students
   b. Should be essential for graduation
   c. Encompass psychomotor skills but do not pertain to knowledge or attitudes

2. Effective midwifery education:
   a. Does not need to focus on the theoretical learning since the practical performance of core competencies is the goal
   b. Includes a balance of theoretical and practical experiences
   c. Uses learning guides and checklists for the development of decision-making and problem-solving skills

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Teaching and learning are more effective when students actively participate in their learning. TRUE

4. Teaching and learning are more effective when feedback on students’ performance is delayed at least 1 day and when students are punished for incorrect performance. FALSE

5. Students should not be given their core competencies until the month before their final examination. FALSE
Midwifery Education: Opportunities and Challenges

Best Practices in Maternal and Newborn Care

Objectives

- Discuss goals in educating midwives
- Define core competencies and their role in curriculum development and design
- List the challenges in educating midwives, and some possible ways to address these challenges

Roles of Midwives

Education should prepare midwives to function as:
- Caregivers
- Decision-makers
- Communicators
- Community leaders
- Managers

What are some roles of midwives?
Professional Development Continuum

- Begins with undergraduate education
- Continues throughout professional practice
- Includes in-service training and/or continuing education
- Providers should be life-long learners

What is a core competency and why is it important in midwifery education?

Core Competencies

- Aspects of a subject or discipline that are common to all students, essential to practice and essential to master in order to graduate from an academic program and enter into practice.
- Each core competency for an academic program will encompass cognitive (knowledge), psychomotor (skills) and affective (values and behaviors) domains that are observable and can be appraised.

Defining Core Competencies

- What is the job description for the position the student may hold after graduation?
- What knowledge, skills and attitudes are experienced health professionals in that cadre applying in the workplace?
- What are the licensing requirements in the related field?
- What are the global standards for core competencies?
Effective Approaches

- Is teaching and learning a science or an art?
- Probably a little of both.
- Effective teaching is a learned ability.
- There are concepts and principles based on research that can help make teaching and learning more effective.
- What are some of the approaches that you have used and found to be effective?

Teaching and Learning Are More Effective When . . . #1

- Students are ready and want to learn.
- Students are aware of what they need to learn (i.e., clear learning objectives or outcomes).
- New KSAs build on what students already know or have experienced.
- Students are active and participate in their learning.

Teaching and Learning Are More Effective When . . . #2

- Students are encouraged to apply critical thinking and alternative approaches supported by sound reasons.
- New KSAs are realistic, relevant and can be put to immediate use.
- New knowledge, skills and attitudes are demonstrated to students, applied by students and integrated into the students’ world.

Teaching and Learning Are More Effective When . . . #3

- Numerous opportunities are given for students to practice and to receive feedback on their performance.
- Feedback to students on their performance is immediate, constructive and nonjudgmental.
- Teaching is interesting, pleasant and exciting.
Teaching and Learning Are More Effective When . . . #4

- A variety of teaching methods and techniques is used.
- Teaching moves step-by-step from simple to complex, and is organized, logical and practical.

Teaching and Learning Are More Effective When . . . #5

- Ideas and concepts are presented clearly, alternative explanations are presented and teachers check frequently for students’ understanding.
- The learning environment is realistic, relevant and one of trust, mutual respect, relative calm, helpfulness, freedom of expression and acceptance of different opinions and approaches.

The Approaches

1. Adult learning
2. Participatory learning
3. Deep learning
4. Experiential learning
5. Problem-based learning
6. Mastery learning
7. Life-long learning

What Are Some of the Challenges You Face in Teaching?

- Divide into groups of three or four
- On a flip chart, write the three top challenges you face in teaching
- Beside each challenge write one solution/approach to overcome
- After 15 minutes, report back to the large group
Challenges #1
- Information overload (adding new content to the curriculum)
- Large numbers of students and insufficient numbers of teaching staff
- Limited opportunities to practice and master skills

Challenges #2
- Poor monitoring of students’ progress, leading to limited opportunities for providing feedback to students
- Facilities used for clinical practice that are not always representative of the facilities, such as outpatient clinics, where graduates will work

Challenges #3
- The need to develop competencies that are difficult to teach, such as decision-making, problem solving, ethics and values
- The difference between the ideal world, where all resources are available, and the real world, where resources and technology are scarce

Challenges #4
- Poor quality materials and equipment, and limited access to computers and up-to-date reference materials
- Little coordination between different teaching units and different levels of study, and between theoretical and practical portions of academic programs
Challenges #5

- Practical experiences that are separated from, and do not always reflect, the associated theoretical experiences
- High turnover of teaching staff

Challenges #6

- Teachers who have no formal training in educational theories or methodologies
- Lack of incentives for teachers to improve their own performance

Summary

- Effective undergraduate education should offer a balance of theoretical and practical experiences.
- Students should be aware of the core competencies they will develop within courses in the curriculum.
- Teachers should participate in a faculty development program to develop teaching competencies.

References


## Optional Module: Best Practices in Nutritional Care of the Pregnant and Lactating Woman—Session Plan

### Maternal and Newborn Care: Technical Update

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Best Practices in Nutritional Care of the Pregnant and Lactating Woman</td>
<td>90 min</td>
</tr>
</tbody>
</table>

### Session Objectives

By the end of this session, participants will be able to:
- Explain why nutrition is important for pregnant and postpartum women
- Describe the indicators of maternal nutrition and their significance
- Explain the nutritional requirements for pregnant and postpartum women
- Demonstrate how to effectively carry out nutritional counseling for pregnant and postpartum women

### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated Presentation/Discussion: Nutrition in Pregnancy (40 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ask questions of the larger group throughout presentation.</td>
</tr>
<tr>
<td>• Be sure to cover:</td>
</tr>
<tr>
<td>- Importance of nutrition to pregnancy outcome</td>
</tr>
<tr>
<td>- Importance of nutrition to HIV-positive women</td>
</tr>
<tr>
<td>- Indicators of maternal nutritional status</td>
</tr>
<tr>
<td>- Micronutrient deficiencies</td>
</tr>
<tr>
<td>- Nutritional requirements of the pregnant woman</td>
</tr>
<tr>
<td>- Nutritional requirements of the HIV-positive pregnant woman</td>
</tr>
<tr>
<td>- Nutritional assessment</td>
</tr>
<tr>
<td>- Education and counseling</td>
</tr>
<tr>
<td>- Importance of nutrition to the lactating mother</td>
</tr>
<tr>
<td>- Indicators of nutritional status in the lactating woman</td>
</tr>
<tr>
<td>- Nutritional requirements of the lactating mother</td>
</tr>
<tr>
<td>- Nutritional requirements for the lactating HIV-positive mother</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exercises: Nutrition and Nutritional Counseling of Pregnant Women (20 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Distribute the exercise sheet and ask participants to work in pairs to</td>
</tr>
<tr>
<td>answer the questions in 10 minutes.</td>
</tr>
<tr>
<td>• Ask a pair to read aloud their answer to each question, and ask other</td>
</tr>
<tr>
<td>participants to react and give the correct answer if they disagree with</td>
</tr>
<tr>
<td>the answer given. Provide the correct answer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illustrated Presentation/Discussion: Nutritional Care for Lactating Women (20 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ask questions and provide answers and discussion throughout presentation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exercises: Nutrition and Nutritional Counseling of Lactating Women (10 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Distribute the exercise sheet and ask participants to work in pairs to</td>
</tr>
<tr>
<td>answer the questions in 5 minutes.</td>
</tr>
<tr>
<td>• After 5 minutes, ask a pair to read aloud their answer to each question,</td>
</tr>
<tr>
<td>and ask other participants to react and give the correct answer if they</td>
</tr>
<tr>
<td>disagree with the answer given. Provide the correct answer.</td>
</tr>
</tbody>
</table>

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
- Two exercises and answer sheets
- Handouts
- Flip charts
- Markers
- Note paper
- AFASS Criteria Handout
EXERCISES—PART A: NUTRITION AND CARE FOR PREGNANT WOMEN

EXERCISES

Exercise 1

Mary, 26, is married and is 6 months pregnant. Mary is expecting her second child. In Mary’s medical note book, it is recorded that she weighed 52 kg before she became pregnant for the second time and she is HIV-negative. Mary is 1.60 m tall. For this second pregnancy, Mary came to the first antenatal visit when she was 4 months pregnant and her weight was 54 kg. Her actual weight is still 54 kg. Mary explained that she is tired. Mary does not take any supplements.

a. From the information provided, what is Mary’s nutritional status?

b. What additional information do you need to be able to accurately define Mary’s nutritional status/problems and how will you get that information?

c. How will you use that information during the counseling session with Mary?

Exercise 2

Jane is 30 and is pregnant for the first time. Jane is HIV-positive. Jane’s weight was 55kg before she became pregnant. Jane is 7 months pregnant. Jane’s weight at 7 months of pregnancy is 62 kg. According to Jane’s medical records, Jane has regularly gained weight between the second and fifth months. Since last month, Jane did not gain any weight. Jane complains of thrush. Jane reported that she takes iron and folic acid tablets every day.

a. What is Jane’s nutritional status?

b. What information is missing to help you have a better idea of the evolution of Jane’s nutritional status?

EXERCISES AND ANSWERS

Exercise 1

Mary, 26, is married and is 6 months pregnant. Mary is expecting her second child. In Mary’s medical note book, it is recorded that she weighed 52 kg before she became pregnant for the second time and she is HIV-negative. Mary is 1.60 m tall. For this second pregnancy, Mary came to the first antenatal visit when she was 4 months pregnant and her weight was 54 kg. Her actual weight is still 54 kg. Mary explained that she is tired. Mary does not take any supplements.

a. From the information provided, what is Mary’s nutritional status?

b. What additional information do you need to be able to accurately define Mary’s nutritional status/problems and how will you get that information?

c. How will you use that information during the counseling session with Mary?
Answers
a. Mary is malnourished (under nutrition). She has not gained any weight in 2 months and may also be anemic. She is not taking any iron or folic acid supplements.

b. Conduct a dietary assessment with Mary and look for clinical signs for anemia. For the dietary assessment, assess the following:
   - Eating patterns: foods regularly consumed and frequency of meals
   - Foods available and affordable
   - Food intolerance and aversions
   - Dietary problems such as poor appetite
   - Physical activity

c. If inadequate food intake and if Jane is food secure, counsel on:
   - Increasing food intake and frequency of meals
   - Diversifying the diet
   - Consuming iodized salt
   - Reducing workload
   - The importance of nutrition to fetal growth

Prescribe iron and folic acid tablets, and counsel about taking the full dose.
   - Promote consumption of foods that enhance iron absorption
   - Counsel on coping with side effects of supplements
   - Provide presumptive hookworm treatment, starting the second trimester
   - Prevent and treat malaria

Exercise 2

Jane is 30 and is pregnant for the first time. Jane is HIV-positive. Jane’s weight was 55kg before she became pregnant. Jane is 7 months pregnant. Jane’s weight at 7 months of pregnancy is 62 kg. According to Jane’s medical records, Jane has regularly gained weight between the second and fifth months. Since last month, Jane did not gain any weight. Jane complains of thrush. Jane reported that she takes iron and folic acid tablets every day.

a. What is Jane’s nutritional status?

b. What information is missing to help you have a better idea of the evolution of Jane’s nutritional status?

Answers
a. Jane is malnourished (under nutrition) and has not gained any weight since her fifth month of pregnancy. Jane may have reduced food intake because of thrush.
b. Jane’s height and eating patterns will help give a better idea of the evolution of her nutritional status. Jane’s dietary assessment will inform the health worker on food intake and food availability. During the assessment the health worker will also look for psychosocial factors that could also contribute to limiting food intake and for the level for physical activity. Jane will be referred for HIV care and treatment.
EXERCISES—PART B: NUTRITION AND CARE FOR POSTPARTUM WOMEN

EXERCISES

Exercise 1

Martha, 25, comes to see you for the first time for counseling. She tested positive for HIV. She has a 3-month-old son, whom she is still breastfeeding, and plans to continue to exclusively breastfeed him until he is 5 months old. Martha explains that she is worried about her health and has not been able to eat well. She feels she has lost weight. Martha has diarrhea, fever, and complains that she is tired.

a. What are the nutritional care issues of Martha?
b. What nutrition and care interventions will you undertake to help Martha?

Exercise 2

Dorothy comes to see you because she has now lost 4 kg and it has been 2 months since she delivered. Dorothy is HIV-negative.

a. What are the points you will cover during nutrition assessment?
b. What are Dorothy’s nutritional problems and what are the nutritional interventions that will help her?

EXERCISES AND ANSWERS

Exercise 1

Martha, 25, comes to see you for the first time for counseling. She tested positive for HIV. She has a 3-month-old son, whom she is still breastfeeding, and plans to continue to exclusively breastfeed him until he is 5 months old. Martha explains that she is worried about her health and has not been able to eat well. She feels she has lost weight. Martha has diarrhea, fever, and complains that she is tired.

a. What are the nutritional care issues of Martha?
b. What nutrition and care interventions will you undertake to help Martha?

1. Martha’s nutritional care issues are:
   - Weight loss
   - Anorexia and insufficient dietary intake
   - Malabsorption of nutrients due to diarrhea
   - Opportunistic infections that cause fever
2. Nutritional and care interventions to help Martha:
   - Refer for HIV care and treatment
   - Counsel on increasing food intake by eating smaller and more frequent meals to help gain weight
   - Counsel on the dietary management of diarrhea and fever through diet

Exercise 2

Dorothy comes to see you because she has now lost 4 kg and it has been 2 months since she delivered. Dorothy is HIV-negative.

a. What are the points you will cover during nutrition assessment?

b. What are Dorothy’s nutritional problems and what are the nutritional interventions that will help her?

1. Nutritional assessment will cover the following:
   - Eating patterns: foods regularly consumed and frequency of meals
   - Foods available and affordable
   - Food intolerance and aversions
   - Dietary problems (e.g., poor appetite, difficulty chewing and swallowing, gastrointestinal problems, pain in mouth and gums)
   - Hygiene and food preparation and handling practices
   - Fatigue and physical activity
   - Use of vitamin and mineral supplements and alternative practices

2. Dorothy’s nutritional problem is weight loss.

Counseling on increasing frequency and quantity of food intake and propose options to resolve any other nutritional problem identified during the nutrition assessment will help Dorothy gain weight. The foods proposed should be available, affordable, and acceptable.
The handouts will be used during counseling sessions and during clinical practice. Participants observing the counseling session should use the checklist to record observations and comments and to provide feedback in a structured manner.

**HANDOUTS**

**Handout 1: Dietary Management of Common Problems in HIV Infection**
This handout can be used during role-play or in clinical practice to help counsel on the dietary management of common HIV-related problems.

<table>
<thead>
<tr>
<th>DIETARY PROBLEM</th>
<th>MESSAGES</th>
</tr>
</thead>
</table>
| Anorexia or loss of appetite | • Eat small frequent meals spaced throughout the day (5–6 meals/day).  
• Schedule regular eating times.  
• Eat protein from animal or plant sources with snacks and meals whenever possible.  
• Drink plenty of liquids, preferably between meals.  
• Take walks before meals to stimulate appetite. |
| Sores in the mouth or throat | • Avoid citrus fruits, tomatoes, and spicy, salty, sweet or sticky foods.  
• Drink liquids with a straw to ease swallowing.  
• Eat foods at room temperature or cold.  
• Eat soft, pureed or moist foods such as porridge, mashed bananas, potatoes, carrots or other non-acidic vegetables and fruits.  
• Avoid smoking, caffeine and alcohol.  
• Rinse mouth daily to prevent thrush with 1 teaspoon baking soda mixed in a glass (250 ml) of warm boiled water. **Do not** swallow the mixture. |
| Nausea and vomiting | • Avoid having an empty stomach, which makes the nausea worse.  
• Eat small, frequent meals.  
• Try dry, salty, and bland foods, such as dry bread or toast, or other plain dry foods and boiled foods.  
• Drink plenty of liquids between meals rather than with meals.  
• Avoid foods with strong or unpleasant odors, greasy or fried foods, alcohol, and coffee.  
• Do not lie down immediately after eating; wait 1-2 hours.  
• If **vomiting**, drink plenty of fluids to replace fluids and prevent dehydration. |
| Diarrhea | • Drink plenty of fluids (8–10 cups a day) such as diluted fruit juices, soup and water.  
• Eat small, frequent meals.  
• Eat bananas, mashed fruit, soft, boiled white rice and porridge, which help slow transit time and stimulate the bowel.  
• Avoid intake of high fat or fried foods and foods with insoluble fiber; remove the skin from fruits and vegetables.  
• Avoid coffee and alcohol.  
• Eat food at room temperature; very hot or very cold foods stimulate the bowels and diarrhea worsens.  

**If diarrhea is severe:**
<table>
<thead>
<tr>
<th>DIETARY PROBLEM</th>
<th>MESSAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Give oral rehydration solution to prevent dehydration.</td>
</tr>
<tr>
<td></td>
<td>• Withhold food for 24 hours or restrict food to clear fluids (e.g., soups, soft foods, white rice, porridge, and mashed fruit and potatoes).</td>
</tr>
<tr>
<td>Constipation</td>
<td>• Drink plenty of fluids, especially water.</td>
</tr>
<tr>
<td></td>
<td>• Increase intake of fiber by eating vegetables and fruits.</td>
</tr>
<tr>
<td></td>
<td>• Do not use laxatives or enemas.</td>
</tr>
<tr>
<td>Bloating</td>
<td>• Avoid foods associated with cramping and bloating (cabbage, beans, onions, green peppers, eggplant).</td>
</tr>
<tr>
<td></td>
<td>• Eat slowly and try not to talk while chewing.</td>
</tr>
<tr>
<td>Altered taste</td>
<td>• Use a variety of flavor enhancers such as salt, spices and herbs to increase taste acuity and mask unpleasant taste sensations.</td>
</tr>
<tr>
<td></td>
<td>• Try different textures of food.</td>
</tr>
<tr>
<td></td>
<td>• Chew food well and move around mouth to stimulate taste receptors.</td>
</tr>
<tr>
<td>Fever</td>
<td>• Drink plenty of fluids throughout the day.</td>
</tr>
<tr>
<td></td>
<td>• Eat smaller, more frequent meals at regularly scheduled intervals.</td>
</tr>
<tr>
<td>Fat malabsorption</td>
<td>• Eliminate oils, butter, ghee, margarine and foods that contain or are prepared with these.</td>
</tr>
<tr>
<td></td>
<td>• Trim all visible fat from meat and remove the skin from chicken.</td>
</tr>
<tr>
<td></td>
<td>• Avoid deep-fried, greasy or high fat foods.</td>
</tr>
<tr>
<td></td>
<td>• Eat smaller, more frequent meals spaced out evenly throughout the day.</td>
</tr>
<tr>
<td></td>
<td>• Take a daily multivitamin, if available.</td>
</tr>
<tr>
<td>Muscle wasting</td>
<td>• Increase quantity of food and frequency of consumption.</td>
</tr>
<tr>
<td></td>
<td>• Eat a variety of foods.</td>
</tr>
<tr>
<td></td>
<td>• Eat protein from animal and vegetal origin.</td>
</tr>
<tr>
<td></td>
<td>• Increase intake of cereals and staples.</td>
</tr>
<tr>
<td></td>
<td>• Eat small but frequent meals.</td>
</tr>
<tr>
<td>High blood Cholesterol</td>
<td>• Eat a low fat diet and limit intake of foods rich in cholesterol and saturated fat.</td>
</tr>
<tr>
<td></td>
<td>• Eat fruits and vegetables daily.</td>
</tr>
<tr>
<td></td>
<td>• Exercise regularly according to capacity.</td>
</tr>
<tr>
<td>High triglycerides</td>
<td>• Limit sweets and excessive carbohydrate and saturated fat intake.</td>
</tr>
<tr>
<td></td>
<td>• Eat fruits, vegetables and whole grains daily.</td>
</tr>
<tr>
<td></td>
<td>• Avoid alcohol and smoking.</td>
</tr>
<tr>
<td></td>
<td>• Exercise regularly according to capacity.</td>
</tr>
</tbody>
</table>

### Handout 2: Safe Food Handling Messages

This handout can be used by participants when role-playing or in clinical practice to counsel on safe food handling practices.

| Wash hands thoroughly before preparing, handling, and eating food and after using the toilet or changing diapers or nappies. | Keep food covered and stored away from insects, flies, rodents and other animals. |
| Wash and keep food preparation surfaces, utensils and dishes clean. | Use safe water (boiled or bottled) for drinking, cooking, and cleaning dishes and utensils. |
| Wash all fruit and vegetables with clean water before eating, cooking or serving. | Do not eat moldy, spoiled or rotten foods. |
| Avoid allowing raw food to come into contact with cooked food. | Do not eat raw eggs or foods that contain raw eggs. |
| Ensure all food is cooked thoroughly, especially meats and chicken. | Serve all food immediately after preparation, especially if it cannot be kept hot. |
| Avoid storing cooked food unless one has access to a refrigerator. | Do not use bottles with teats to feed infants; use a cup instead. |

Handout 3: Side Effects and Recommended Food Intakes with Modern Medications

This handout can be used during the nutritional counseling on the dietary management of food and nutrition implications of common modern medications taken by PLWHA. The handout lists the medication, the purpose, the recommendations on how to take the drug, and the potential side effects.

<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>PURPOSE</th>
<th>RECOMMENDED TO BE TAKEN</th>
<th>POTENTIAL SIDE EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfonamides: Sulfamethoxazole, Cotrimoxazole (Bactrim®, Septra®)</td>
<td>Antibiotic for treatment of pneumonia and toxoplasmosis</td>
<td>With food</td>
<td>Nausea, vomiting and abdominal pain.</td>
</tr>
<tr>
<td>Rifampin</td>
<td>Treatment of tuberculosis</td>
<td>On an empty stomach 1 hour before or 2 hours after meals</td>
<td>Nausea, vomiting, diarrhea and loss of appetite. Altered change and may interfere with folate and vitamin B12 levels. Avoid alcohol.</td>
</tr>
<tr>
<td>Isoniazid</td>
<td>Treatment of tuberculosis</td>
<td>1 hour before or 2 hours after meals</td>
<td>Anorexia and diarrhea. May cause possible reactions with foods such as bananas, beer, avocados, liver, smoked pickled fish, yeast and yogurt. May interfere with Vitamin B6 metabolism, therefore may require Vitamin B6 supplement. Avoid alcohol.</td>
</tr>
<tr>
<td>Quinine</td>
<td>Treatment of malaria</td>
<td>With food</td>
<td>Abdominal or stomach pain, diarrhea, nausea, vomiting; lower blood sugar.</td>
</tr>
<tr>
<td>Sulfadoxine and Pyrimethamine (Fansidar®)</td>
<td>Treatment of malaria</td>
<td>With food and continuously drink clean boiled water</td>
<td>Nausea, vomiting, taste loss and diarrhea. Not recommended if folate deficient. Not recommended for women who are breastfeeding.</td>
</tr>
<tr>
<td>Chloroquine</td>
<td>Treatment of malaria</td>
<td>With food</td>
<td>Stomach pain, loss of appetite, nausea, vomiting. Not recommended for women who are breastfeeding.</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>Treatment of candida (thrush)</td>
<td>With food</td>
<td>Nausea, vomiting, diarrhea. Can be used during breastfeeding.</td>
</tr>
<tr>
<td>Nystatin</td>
<td>Treatment of thrush</td>
<td>With food</td>
<td>Infrequent occurrence of diarrhea, vomiting, nausea.</td>
</tr>
</tbody>
</table>
DESCRIPTION OF THE AFASS CRITERIA

Acceptable: The mother perceives no barrier to replacement feeding. Barriers may have cultural or social reasons, or be due to fear of stigma or discrimination. According to this concept the mother is under no social or cultural pressure not to use replacement feeding, and she is supported by family and community in opting for replacement feeding, or she will be able to cope with pressure from family and friends to breastfeed, and she can deal with possible stigma attached to being seen with replacement food.

Feasible: The mother (or family) has adequate time, knowledge, skills and other resources to prepare the replacement food and feed the infant up to 12 times in 24 hours. According to this concept the mother can understand and follow the instructions for preparing infant formula and with support from the family can prepare enough replacement feeds correctly every day, and at night, despite disruptions to preparation of family food or other work.

Affordable: The mother and family, with community or health-system support if necessary, can pay the cost of purchasing/producing, preparing and using replacement feeding, including all ingredients, fuel, clean water, soap and equipment, without compromising the health and nutrition of the family. This concept also includes access to medical care if necessary for diarrhea and the cost of such care.

Sustainable: Availability of a continuous and uninterrupted supply and dependable system of distribution for all ingredients and products needed for safe replacement feeding, for as long as the infant needs it, up to one year of age or longer. Also, the mother and family are reasonably certain that they will be able to pay the costs cited under “Affordable” for as long as the infant needs replacement feeding.

Safe: Replacement foods are correctly and hygienically prepared and stored, and fed in nutritionally adequate quantities, with clean hands and using clean utensils, preferably by cup. This concept means that the mother or caregiver:
- Has access to a reliable supply of safe water (from a piped or protected-well source)
- Prepares replacement feeds that are nutritionally sound and free of pathogens
- Is able to wash hands and utensils thoroughly with soap, and to regularly boil the utensils to sterilize them
- Can boil water for preparing each of the baby’s feeds
- Can store unprepared feeds in clean, covered containers and protect them from rodents, insects and other animals

## ESSENTIAL NUTRITION ACTIONS FOR PREGNANT WOMEN:
### KEY MESSAGES FOR HEALTH PROVIDERS

<table>
<thead>
<tr>
<th>RECOMMENDATIONS</th>
<th>MESSAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure adequate food intake to ensure fetal growth and to prepare for breastfeeding</td>
<td>Counsel on the importance of increasing meal frequency to at least 3 meals and a snack every day</td>
</tr>
</tbody>
</table>
| Recommend diversified diet to improve proteins and micronutrient intake | Counsel on daily consumption of:  
  - Washed fruits and well-cooked vegetables  
  - Foods from animal origin if feasible and acceptable  
  - Whole grain/cereals  
  - Cereals and dried legumes, mixed |
| Recommend use of iodized salt to meet iodine needs and prevent iodine deficiency | Encourage daily consumption of iodized salt |
| Prescribe iron and folic acid supplements (60 mg iron, 400µg of folic acid) | Counsel on how to improve absorption of iron and how to manage side effects  
  - Treat malaria and promote the use of insecticide-treated bed nets  
  - Administer presumptive treatment for hookworm in the second term of pregnancy  
  - Counsel on having additional rest |

### Special considerations for HIV-positive pregnant women
In addition to the recommendations and messages listed above:

| Increase food intake | Counsel on the importance of increasing meal frequency:  
  - At least an extra meal or two snacks/day  
  - Refer HIV-positive pregnant women who do not have food security for food assistance |
| Hygiene and food safety | Promote the following actions:  
  - Drinking clean water  
  - Washing hands before meals and after using toilets  
  - Keeping hands and food preparation areas clean  
  - Separating raw foods from cooked foods and the utensils used with them  
  - Cooking fresh and reheated foods thoroughly  
  - Keeping food at safe temperatures  
  - Using safe water and raw materials |
| Psycho-social support | Provide psycho-social support  
  - Refer women to community support groups |
| Dietary management of complications such as diarrhea, vomiting, anorexia, and thrush | Provide health education, information and advice on managing common side-effects, such as diarrhea, nausea and vomiting (Refer to Handout 1) |
| Dietary management of food and drug interactions | Counsel on dietary modifications as needed in response to the metabolic syndrome associated with ARV treatment  
  - Provide treatment advice on dietary needs or restrictions of specific ARV drug regimens (Refer to Handouts 1 and 3) |
KNOWLEDGE ASSESSMENT:
NUTRITION AND CARE IN PREGNANCY AND THE POSTPARTUM

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Night blindness in a pregnant woman may be a sign of:
   a. Anemia
   b. Vitamin A deficiency
   c. Vitamin C deficiency
   d. a) and b)
   e. All of the above

2. Iodine deficiency during pregnancy may result in:
   a. A goiter in the pregnant woman
   b. The birth of a baby with irreversible brain damage
   c. Severe anemia
   d. a) and b)
   e. All of the above

3. Counseling to prevent anemia in the pregnant woman should include:
   a. Take 120 mg iron + 400 mcg folic acid every day for 3 months
   b. Drink orange, pineapple or citrus juice while taking iron and folic acid
   c. Restrict consumption of tea, coffee and cocoa
   d. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

4. Anemia in HIV-infected women is an independent predictor of more rapid HIV progression and mortality.  
   ____

5. Malnutrition in pregnancy may increase the risk of mother-to-child transmission of HIV in women who are HIV +.  
   ____

6. The indicators of malnutrition in HIV-infected pregnant women are the same as in the non-infected pregnant women.  
   ____

7. WHO recommends giving breastfeeding women a high dose of vitamin A (200000 IU) within 6 weeks after delivery to increase breast milk content of vitamin A.  
   ____

8. The lactating woman, as the pregnant woman, requires a diversified diet to meet micronutrient needs.  
   ____
KNOWLEDGE ASSESSMENT: NUTRITION AND CARE IN PREGNANCY AND THE POSTPARTUM—ANSWER KEY

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Night blindness in a pregnant woman may be a sign of:
   a. Anemia
   b. Vitamin A deficiency
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   c. Restrict consumption of tea, coffee and cocoa.
   d. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. Anemia in HIV-infected women is an independent predictor of more rapid HIV progression and mortality. TRUE

4. Malnutrition in pregnancy may increase the risk of mother-to-child transmission of HIV in women who are HIV+. TRUE

5. The indicators of malnutrition in HIV-infected pregnant women are the same as in the non-infected pregnant women. TRUE

6. WHO recommends giving breastfeeding women a high dose of vitamin A (200,000 IU) within 6 weeks after delivery to increase breast milk content of vitamin A. TRUE

7. The lactating woman, as the pregnant woman, requires a diversified diet to meet micronutrient needs. TRUE
Objectives

- Explain why nutrition is important for pregnant and postpartum women
- Describe the indicators of maternal nutrition and their significance
- Explain the nutritional requirements for pregnant and postpartum women
- Demonstrate how to effectively carry out nutritional counseling for pregnant and postpartum women

PART 1

Why is nutrition important for pregnant women?

- Malnutrition in pregnant women affects birth outcomes
- Maternal malnutrition may lead to:
  - Increased risk of fetal, neonatal and infant death
  - Intrauterine growth restriction, low birth weight and prematurity
  - Birth defects
  - Cretinism
  - Brain damage
  - Increased risk of infection

Nutritional Care for Pregnant Women
Why is nutrition important for pregnant women? (cont.)

Special considerations for HIV-positive women:
- HIV-positive women tend to gain less weight than HIV-negative women during pregnancy.
- Wasting during pregnancy is more common in HIV-infected women than in the general population.
- Anemia is often more severe in HIV-infected women than in other women. Anemia in HIV-infected women is an independent predictor of more rapid HIV progression and mortality.

Malnutrition during pregnancy may increase the risk of MTCT by:
- Resulting in low fetal stores of some nutrients. This may increase the vulnerability of infants to HIV.
- Impairing the integrity of the placenta, the genital mucosal barrier and the gastrointestinal tract. Transmission of HIV from mother to infant may be facilitated.
- Causing low serum retinol (Vitamin A) levels that are associated with an increased risk of MTCT.

2. Indicators of Maternal Nutritional Status

Indicators of malnutrition include:
- Weight gain ≤ 11.5 kg
- Weight gain ≤ 1 kg/month in the last trimester of the pregnancy
- Hemoglobin level < 11 g/dL
- Vitamin A deficiency
- Presence of goiter
- Presence of clinical signs of micronutrient deficiencies

Indicators of Nutritional Status

- Micronutrient deficiencies
- Iron deficiency occurs when an insufficient amount of iron is taken in or absorbed to meet the body’s requirements. Anemia is the major clinical manifestation of iron deficiency:
  - The pregnant woman is moderately anemic if Hb < 7–11 g/dL
  - The pregnant woman is severely anemic if Hb < 7 g/dL
Micronutrient Deficiencies

- **Night blindness** may be a sign of Vitamin A deficiency in the pregnant women
- **Causes of vitamin A deficiency include:**
  - Inadequate intake
  - Recurrent infections
  - Frequent reproductive cycling and short intervals between pregnancies

Micronutrient Deficiencies (cont.)

- **Iodine deficiency:** The most common sign is goiter (enlargement of the thyroid).
- The cause of iodine deficiency is the consumption of water and foods grown on iodine-deficient soil.
- Iodine deficiency during pregnancy negatively affects the development of the fetus and results in the birth of cretins. The mental retardation resulting from iodine deficiency during pregnancy is irreversible.

Indicators of Nutritional Status: HIV-Positive Women

- An HIV-positive woman’s nutritional status before and during pregnancy influences both her health and survival and that of her newborn child. HIV infection increases energy requirements because of elevated resting energy expenditure.
- The indicators of malnutrition in HIV-infected pregnant women are the same as in the non-infected pregnant women.

3. Nutritional Requirements of Pregnant Women

- The physiological changes that occur during pregnancy require extra nutrients for adequate gestational weight gain in order to support the growth and development of the fetus.
- **Energy requirements:**
  - An additional 300 kcal per day
  - Three meals and one snack
### Nutritional Recommendations for Pregnant Women

- Weight gain: 12–16 kg
- Daily additional energy intake: One extra meal each day
- Diversified diet: fruits, vegetables, cereals, grains, meat, and fish
- Iron and folic acid supplementation: 60 mg of iron and 400 mcg of folic acid every day
- Daily consumption of iodized salt
- Prevention and treatment of malaria
- Provide presumptive hookworm treatment

### Nutritional Requirements of HIV-Positive Women

#### Special considerations for HIV+ women:

- **Increased energy requirements:**
  - For asymptomatic:
    - Increase energy requirements by 10% \( \Rightarrow \) At least 3 meals and 2 snacks every day
  - For symptomatic:
    - Increase energy intake by about 20% to 30% \( \Rightarrow \) At least 4 meals and 2 snacks every day

### Nutritional Care for HIV-Positive Women

#### Goals:

- Maintaining or increasing weight – Encourage diversified diet
- Preventing food-borne illnesses – Ensure that food and water are not contaminated and that storage and handling are safe
- Referring for appropriate HIV care and treatment
- Promptly treating opportunistic infections and managing the symptoms that affect food intake

#### Nutritional Care for HIV-Positive Women (cont.)

- **Food safety:**
  - Drinking water
  - Handwashing
  - Cooking and storing food
- **Management of AIDS-related symptoms** – Management of food/nutrition and drug interactions:
  - Maintain food intake
  - Eat and drink more to replace nutrients lost
- **Psycho-social support**
4. Key Actions for Health Workers

1. Assess the nutritional status of all pregnant women
2. Treat – Educate and provide nutrition counseling
3. Carry out follow-up counseling sessions

Nutritional Assessment

Components:
- Physical assessment: Steady weight gain during pregnancy
- Dietary assessment: Foods regularly consumed and frequency of meals, foods available and affordable, food intolerance and aversions to related symptoms, hygiene and food preparation and handling practices, vitamin and mineral supplements, and alternative practices
- Medication profile: Medication and supplementation she is taking
- Psychosocial

2. Education – Counseling

The health worker should always:
- Congratulate the pregnant woman for the positive actions/practices that she is already implementing.
- Propose options that are acceptable, affordable, and feasible for the woman.
- Encourage the pregnant woman to try new options that could help improve her nutritional status. The health worker should highlight the benefits the pregnant woman should expect when she implements the recommended actions.

Education – Counseling (cont.)

Counsel on (this applies to all women):
- Increasing food intake and frequency of meals
- Reducing workload
- Taking iron and folic acid tablets, and taking the full dose
- Promoting consumption of foods that enhance iron absorption
- Managing side effects that are diet-related
- Diversifying diet
- Providing presumptive hookworm treatment, starting the second trimester
- Preventing and treating malaria
Education – Counseling (cont.)

For HIV-positive women:
- If symptomatic and wasting:
  - Screen for causes and treat as needed
  - Counsel on increased food consumption
  - Refer for ARV treatment and family food assistance as needed
- If symptomatic and not wasting, counsel on:
  - Dietary management of complications such as diarrhea, vomiting, anorexia and thrush
  - Dietary management of food and drug interactions
- If asymptomatic, counsel on:
  - Increasing food intake
  - Hygiene and food safety
  - Providing psycho-social support and referral to community support groups

Education – Counseling (cont.)

- Nutritional care for malnourished pregnant women
  - If Anemic: treat anemia.
- Messages for the pregnant woman:
  - Take 120 mg iron + 400 mcg folic acid every day for 3 months. Drink orange, pineapple or citrus juice while taking iron and folic acid. Restrict consumption of tea, coffee and cocoa.

Education – Counseling (cont.)

- Nutritional messages for malnourished pregnant women:
  - Eat more than three meals and one extra snack per day
  - Rest more

3. Follow-Up Counseling Session

- Monitor the pregnant woman’s weight gain and counsel accordingly
- Monitor adherence and compliance to iron and folic acid intake
- Research and treat micronutrient deficiencies
- Follow up on the management of symptoms, food/nutrition and drug interactions affecting food intake and nutrient absorption for the HIV-positive women
Breastfeeding

- Exclusive breastfeeding should be encouraged among all women regardless of HIV status
- For HIV-free survival of infants, all women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe (AFASS) should be encouraged to exclusively breastfeed for 6 months
- A woman should be supported in her infant feeding decision; the choice is hers

PART 2

Nutritional Care for Lactating Women

1. Why is nutrition important for lactating women?
   
   1. Lactation places high demands on maternal stores of energy, protein and other nutrients
   2. Maternal micronutrient malnutrition can negatively affect breast milk composition:
      - Inadequate maternal intake of water-soluble vitamins can affect breast milk concentration

Why is nutrition important for lactating women? (cont.)

Special consideration for HIV-positive women:
- Little is known about the effect of breastfeeding on the health and nutrition of HIV-positive women
- Multivitamin supplementation may delay the progression of HIV disease
2. Indicators of Maternal Nutritional Status

Indicators of good nutritional status:
- Hemoglobin level ≥ 12 g/dL
- Absence of clinical signs of micronutrient deficiencies

3. Nutritional Requirements of Lactating Women

- Requirements for energy and water-soluble vitamin are higher during lactation than during pregnancy and are proportional to the intensity and duration of breastfeeding
  - Energy requirements:
    - An additional 500 kcal per day
    - 4 meals per day

3. Nutritional Requirements of Lactating Women (cont.)

- Protein requirements:
  - An extra serving of protein food such as meat, fish, poultry, beans or lentils each day
- Micronutrient requirements:
  - WHO recommends giving breastfeeding women a high dose of vitamin A (200,000 IU) within 6 weeks after delivery to increase breast milk content of vitamin A

3. Nutritional Requirements of Lactating Women (cont.)

- Special considerations for HIV-infected lactating women are the same as for HIV-positive pregnant women
  - Energy requirements:
    - If asymptomatic: Increase energy intake by 10% → 4 meals and one snack
    - If symptomatic: Increase energy intake by about 20% to 30% → 4 meals and 2 or 3 snacks
    - Consumption of a diversified diet to meet the micronutrients needs
Nutritional Care for HIV-Positive Lactating Women

- Food safety, dietary management of AIDS-related symptoms, dietary management of food and nutrition and drug interactions, and psycho-social support are similar to those of HIV-infected pregnant women.

References


4. Key Actions for Health Workers

- Key actions that health workers take to enhance the nutritional status of breastfeeding women are similar to those for pregnant women.
- The health worker will adapt the content of the assessment and counseling to the situation of the breastfeeding woman.

References (cont.)


## Optional Module: Performance and Quality Improvement—Session Plan

### Maternal and Newborn Care: Technical Update

<table>
<thead>
<tr>
<th>SESSION</th>
<th>TOPIC</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance and Quality Improvement</td>
<td>120 min</td>
</tr>
</tbody>
</table>

### Session Objectives

**By the end of this session, participants will be able to:**
- Define the Standards-Based Management and Recognition (SBM-R) model
- Describe the four steps of the SBM-R model
- Practice the use of the tool: standards and identification of gaps
- Practice identification of interventions and action plan

### Methods and Activities

<table>
<thead>
<tr>
<th>Illustrated presentation/discussion: A performance and quality improvement approach (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use questions and discussion throughout presentation as indicated on slides.</td>
</tr>
<tr>
<td>• Respond to questions as they arise during presentation.</td>
</tr>
<tr>
<td>• Be sure to cover the following topical areas:</td>
</tr>
<tr>
<td>• Define &quot;Standards-Based Management and Recognition (SBM-R)&quot;</td>
</tr>
<tr>
<td>• Steps of SBM-R</td>
</tr>
<tr>
<td>• Setting performance standards</td>
</tr>
<tr>
<td>• Tools for assessing performance</td>
</tr>
<tr>
<td>• Implementation standards cycle</td>
</tr>
<tr>
<td>• Defining “gaps”</td>
</tr>
<tr>
<td>• Designing interventions</td>
</tr>
<tr>
<td>• Measuring progress</td>
</tr>
<tr>
<td>• Showing results</td>
</tr>
<tr>
<td>• Ways to provide recognition</td>
</tr>
</tbody>
</table>

Include case study/exercise described on slide.

### Materials/Resources

- Boxlight projector
- PowerPoint presentation
- Overhead projector with transparencies (Handouts of presentations if no electricity)
KNOWLEDGE ASSESSMENT: PERFORMANCE AND QUALITY IMPROVEMENT

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Defining standards for SBM-R includes:
   a. National policies/priorities
   b. Service delivery guidelines
   c. Provider inputs
   d. Client preferences
   e. a), b) and c)
   f. All of the above

2. What factors may affect performance?
   a. Knowledge, skills, capability
   b. Resources, tools, capacity
   c. Motivation
   d. All of the above

Instructions: In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. The final step in the SBM-R process is measuring the results of implementation. _____

4. The same tools are used for external evaluation as were used by local staff for self-evaluation. _____

5. Although material recognition is effective, social recognition has been proven not to be effective. _____
KNOWLEDGE ASSESSMENT: PERFORMANCE AND QUALITY IMPROVEMENT—ANSWER KEY

**Instructions:** Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

1. Defining standards for SBM/R includes:
   a. National policies/priorities
   b. Service delivery guidelines
   c. Provider inputs
   d. Client preferences
   e. a), b) and c)
   f. **All of the above**

2. What factors may affect performance?
   a. Knowledge, skills, capability
   b. Resources, tools, capacity
   c. Motivation
   d. **All of the above**

**Instructions:** In the space provided, print a capital T if the statement is true or a capital F if the statement is false.

3. The final step in the SBM-R process is measuring the results of implementation.  
   **FALSE**

4. The same tools are used for external evaluation as were used by local staff for self-evaluation.  
   **TRUE**

5. Although material recognition is effective, social recognition has been proven not to be effective.  
   **FALSE**
Performance and Quality Improvement

Best Practices in Maternal and Newborn Care

Jhpiego in partnership with Save the Children, Constella Futures, The Academy for Educational Development, The American College of Nurse-Midwives and IMA World Health

Objectives

By the end of the session, the learner will be able to:
- Define the Standards-Based Management and Recognition (SBM-R) model
- Describe the four steps of the SBM-R model
- Practice the use of the tool: standards and identification of gaps
- Practice identification of interventions and action plan

What is Standards-Based Management and Recognition (SBM-R)?
- Practical management approach for improving performance and quality of health services
- Based on use of operational, observable performance standards for on-site assessment
- Must be tied to reward or incentive program when standards are accomplished
- The whole team needs to be involved (not only clinicians or administrators)
- Consists of four basic steps

The Four Steps of SBM-R

1. Set Standards
2. Implement Standards
3. Measure Progress
4. Recognize Achievements

- Measure Progress
- Recognize Achievements
- Implement Standards
- Set Standards
STEP 1: Setting Standards
Desired Performance

Set Standards
1

Question ??

How would you define/set clinical standards in a certain area?

How to Define Desired Performance:
Standards

Client Preferences
Provider Inputs
Service Delivery Guidelines
National Policies/Priorities

Tool of Performance Standards

Performance Standards

The standards tell providers not only WHAT TO DO but also HOW TO DO IT
Performance Assessment Tool  
(sampling from Tanzania tool for FANC)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Verification Criteria</th>
<th>Y, N, NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The provider conducts a routine rapid assessment of pregnant women</td>
<td>Observe in the reception area or waiting room if the person that receives the pregnant woman:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Asks if she has or has had:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Vaginal bleeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Headache or visual changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Breathing difficulty</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Severe abdominal pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fever</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Immediately notifies the health provider if any of these conditions is present</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary Form of Assessment Tool  
(sampling from the Tanzania Tool for FANC)

<table>
<thead>
<tr>
<th>SECTIONS</th>
<th>STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focused Antenatal Care</td>
<td>19</td>
</tr>
<tr>
<td>Information, Education and Communication (IEC)</td>
<td>4</td>
</tr>
<tr>
<td>Infection Prevention</td>
<td>5</td>
</tr>
<tr>
<td>Management Systems</td>
<td>9</td>
</tr>
<tr>
<td>Human, Pharmacy and Laboratory resources</td>
<td>9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>46</td>
</tr>
</tbody>
</table>

Filling Out the Tool

- Methods used to collect the information: structured direct observation, review of service and administrative records and documents, and interviews
- Immediately register the information collected
- Register “Yes”, “No” or “Not Applicable” in the corresponding column
- Write down all pertinent comments, in a clear and concise fashion, highlighting issues and possible causes

Filling Out the Tool

- Register “Yes” if the item exists or is performed as it is described
- Register “No” if the item does not exist or is performed incorrectly or incompletely
- Register “NA” when the item requires a condition that does not exist
- Register “N/O” when the standard was not observed or not performed
Step 2: Implementing Standards
Measurement of Actual Performance

1. Set Standards
2. Implement Standards

Implementation Standards Cycle

- Desired performance
- Gap
- Cause analysis
- Intervention identification & implementation

Baseline Assessment

- Determines actual level of performance using the performance assessment tool
- Establishes actual performance in percentage terms by area and total
- Helps to identify performance gaps
- Once gaps are identified, then identify their causes

Initial Identification of Gaps

Identify gaps by marking “N” for:
- Practices not performed at all
- Practices performed incorrectly or incompletely

In the comments column:
- If possible, summarize potential causes why not done correctly
- If there is one or more “N,” the standard is not accomplished
implementation cycle:

- Desired performance
- Gap
- Cause analysis
- Intervention identification & implementation
- Actual performance

question ??

- What might be some causes of “gaps”?
- What are some factors that might affect performance?

why gaps? factors of performance:

- Know how to do (Capability) → Knowledge, skills, information
- Be enabled to do (Opportunity) → Resources, tools, capacity
- Want to do (Motivation) → Inner drive, incentives

causes and intervention design:

- MOTIVATION
  - Resources, Capacity → Strengthening of Management Systems, Provision of Resources
  - Knowledge, Skills, Information → Training, Communication

- INCENTIVES
  - Types of Causes → Appropriate Interventions
Interventions Can Be . . .
- Rapid interventions
- Interventions based on local resources
- Interventions that require external support

Remember that...
- There are factors that are under our control and there are factors that are outside of our control (resources, technical expertise, policies)
- We can begin the changes by addressing the factors that are under our control and produce rapid results
- We need to identify the sources of external assistance for the factors that are outside of our control

Step Three: Measure Progress
1. Set Standards
2. Implement Standards
3. Measure Progress

Case Study: A Performance Gap
- The clinical protocols/standards require that AMTSL be used at each birth
- You find that AMTSL is never being used
- You determine that all service providers know how to perform AMTSL, but no oxytocin nor ergometrine is available in the delivery area
- What is the Desired Performance, Actual Performance, Gap, (probable) Cause, Proposed Intervention?
**Case Study**

**SBM-R Exercise:**
- Desired performance: AMTSL every birth
- Actual performance: AMTSL not performed
- GAP: No AMTSL
- Cause: No uterotonic
- Intervention: Meet with administrator with request to order oxytocin and keep it stocked in delivery area

**Steps to Measure Progress**

**Using the same tool and process:**
- Measure progress (internal monitoring) after 2 or 3 months of interventions
- External evaluation (regional and central MOH) for official recognition when standards have been accomplished

**Showing Results – by Facility**
One Hospital in Guatemala

**Showing Results – by Facilities**
Seven Hospitals in Malawi

![Graph showing progress over time](image)
Showing Results – by Section of the Tool
13 Health Centers Brazil

Showing Results in Pictures

Showing Results - Use of Indicators example from Guatemala

<table>
<thead>
<tr>
<th>FACILITY TYPE</th>
<th>INDICATOR</th>
<th>2001</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Post Center Hospitals</td>
<td>EMNC norms and protocols available onsite</td>
<td>3%</td>
<td>44%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>Perform adequate decontamination of instruments</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Adequate supplies and equipment for EmONC in labor &amp; delivery rooms</td>
<td>29%</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td>Linkage to a community health committee</td>
<td>14%</td>
<td>63%</td>
</tr>
</tbody>
</table>

Source: PQI Instruments
**Step Four: Recognize and Reward Achievements**

1. Set Standards
2. Implement Standards
3. Measure Progress
4. Recognize Achievements

**Ways to Provide Recognition**

- Feedback
- Social recognition
- Material recognition

**Recognizing the Team Honduras**

Conferral by the Ministry of Health to Mzuzu Central Hospital in recognition of the achievement of standards of excellence in Infection Prevention practices Year 2004
Summary

- Four-step process
- Not as complicated as it may sound
- Puts the power in the hands of local providers and managers
- Evidence-based standards
- Requires multiple sources of supervision and support

PQI Around the World
(Jhpiego and ACCESS Programs)

Burkina Faso, Malawi, Mozambique, Ghana, Tanzania Guatemala, Honduras, Jamaica Indonesia, Afghanistan, Pakistan

References


COMPETENCY #1: Midwives have the requisite knowledge and skills from the social sciences, public health and ethics that form the basis of high quality, culturally relevant, appropriate care for women, newborn and childbearing families.

**Basic Knowledge and Skills:**
1. Respect for local culture (customs).
2. Traditional and modern routine health practices (beneficial and harmful).
3. Resources for alarm and transport (emergency care).
4. Direct and indirect causes of maternal and neonatal mortality and morbidity in the local community.
5. Advocacy and empowerment strategies for women.
8. Strategies for advocating with women for a variety of safe birth settings.
9. Knowledge of the community - its state of health including water supply, housing, environmental hazards, food, common threats to health.
10. Indications and procedures for adult and newborn/infant cardiopulmonary resuscitation.
11. Ability to assemble, use and maintain equipment and supplies appropriate to setting of practice.

**Additional Knowledge and Skills:**
12. Principles of epidemiology, sanitation, community diagnosis and vital statistics or records
13. National and local health infrastructures; how to access needed resources for midwifery care.
15. National immunisation programs (provision of same or knowledge of how to assist community members to access to immunisation services)
Professional Behaviours - The midwife:
1. Is responsible and accountable for clinical decisions.
2. Maintains knowledge and skills in order to remain current in practice.
3. Uses universal/standard precautions, infection control strategies and clean technique.
4. Uses appropriate consultation and referral during care.
5. Is non-judgmental and culturally respectful.
6. Works in partnership with women and supports them in making informed choices about their health.
7. Uses appropriate communication skills.
8. Works collaboratively with other health workers to improve the delivery of services to women and families.

PRE-PREGNANCY CARE AND FAMILY PLANNING METHODS

Competency #2: Midwives provide high quality, culturally sensitive health education and services to all in the community in order to promote healthy family life, planned pregnancies and positive parenting.

Basic Knowledge of:
1. Growth and development related to sexuality, sexual development and sexual activity.
2. Female and male anatomy and physiology related to conception and reproduction.
3. Cultural norms and practices surrounding sexuality, sexual practices and childbearing.
4. Components of a health history, family history and relevant genetic history.
5. Physical examination content and investigative laboratory studies that evaluate potential for a healthy pregnancy.
6. Health education content targeted to reproductive health, sexually transmitted diseases (STDs), HIV/AIDS and child survival.
7. Natural methods for child spacing and other locally available and culturally acceptable methods of family planning.
8. Barrier, steroidal, mechanical, chemical and surgical methods of contraception and indications for use.
9. Counselling methods for women needing to make decisions about methods of family planning.
10. Signs and symptoms of urinary tract infection and common sexually transmitted diseases in the area.
Additional Knowledge of:
1. Factors involved in decisions relating to unplanned or unwanted pregnancies.
2. Indicators of common acute and chronic disease conditions specific to a geographic area of the world, and referral process for further testing/treatment.
3. Indicators of and methods of counselling/referral for dysfunctional interpersonal relationships including sexual problems, domestic violence, emotional abuse and physical neglect.

Basic Skills:
1. Take a comprehensive history.
2. Perform a physical examination focused on the presenting condition of the woman.
3. Order and/or perform and interpret common laboratory studies such as haematocrit, urinalysis or microscopy.
4. Use health education and basic counselling skills appropriately.
5. Provide locally available and culturally acceptable methods of family planning.
6. Record findings, including what was done and what needs follow-up.

Additional Skills:
1. Use the microscope.
2. Provide all available methods of barrier, steroidal, mechanical, and chemical methods of contraception.
3. Take or order cervical cytology smear (Pap test)

CARE AND COUNSELLING DURING PREGNANCY

Competency #3: Midwives provide high quality antenatal care to maximise the health during pregnancy and that includes early detection and treatment or referral of selected complications.

Basic Knowledge of:
1. Anatomy and physiology of the human body.
2. Menstrual cycle and process of conception.
4. How to confirm a pregnancy.
5. Diagnosis of an ectopic pregnancy and multiple fetuses.
6. Dating pregnancy by menstrual history, size of uterus and/or fundal growth patterns.
7. Components of a health history.
8. Components of a focused physical examination for antenatal visits.
9. Normal findings [results] of basic screening laboratory studies defined by need of area of the world; eg. iron levels, urine test for sugar, protein, acetone, bacteria.


11. Normal psychological changes in pregnancy and impact of pregnancy on the family.

12. Safe, locally available herbal/non-pharmacological preparations for the relief of common discomforts of pregnancy.


14. Nutritional requirements of the pregnant woman and fetus.

15. Basic fetal growth and development.

16. Education needs regarding normal body changes during pregnancy, relief of common discomforts, hygiene, sexuality, nutrition, work inside and outside the home.

17. Preparation for labour, birth and parenting.

18. Preparation of the home/family for the newborn.

19. Indicators of the onset of labour.

20. How to explain and support breastfeeding.

21. Techniques for increasing relaxation and pain relief measures available for labour.

22. Effects of prescribed medications, street drugs, traditional medicines and over-the-counter drugs on pregnancy and the fetus.

23. Effects of smoking, alcohol use and illicit drug use on the pregnant woman and fetus.

24. Signs and symptoms of conditions that are life-threatening to the pregnant woman; eg. pre-eclampsia, vaginal bleeding, premature labour, severe anaemia.

**Additional Knowledge of:**

1. Signs, symptoms and indications for referral of selected complications and conditions of pregnancy: eg. asthma, HIV infection, diabetes, cardiac conditions, post-dates pregnancy.

2. Effects of above named chronic and acute conditions on pregnancy and the fetus.

**Basic Skills:**

1. Take an initial and ongoing history each antenatal visit.

2. Perform a physical examination and explain findings to woman.

3. Take and assess maternal vital signs including temperature, blood pressure, pulse.


5. Perform a complete abdominal assessment including measuring fundal height, position, lie and descent of fetus.

7. Listen to the fetal heart rate and palpate uterus for fetal activity pattern.
8. Perform a pelvic examination, including sizing the uterus and determining the adequacy of the bony structures.
9. Calculate the estimated date of delivery.
10. Educate women and families about danger signs and when/how to contact the midwife.
11. Teach and/or demonstrate measures to decrease common discomforts of pregnancy.
12. Provide guidance and basic preparation for labour, birth and parenting.
13. Identify variations from normal during the course of the pregnancy and institute appropriate interventions for:
   a. low and/or inadequate maternal nutrition
   b. inadequate fetal growth
   c. elevated blood pressure, proteinuria, presence of significant oedema, severe headaches, visual changes, epigastric pain associated with elevated blood pressure
   d. vaginal bleeding
   e. multiple gestation, abnormal lie at term
   f. intrauterine fetal death
   g. rupture of membranes prior to term
14. Perform basic life saving skills competently.
15. Record findings including what was done and what needs follow-up.

Additional Skills:
1. Counsel women about health habits; eg. nutrition, exercise, safety, stopping smoking.
2. Perform clinical pelvimetry [evaluation of bony pelvis].
3. Monitor fetal heart rate with doppler.
4. Identify and refer variations from normal during the course of the pregnancy, such as:
   a. small for dates [light]/large for dates [heavy] fetus
   b. suspected polyhydramnios, diabetes, fetal anomaly (eg. oliguria)
   c. abnormal laboratory results
   d. infections such as sexually transmitted diseases (STDs), vaginitis, urinary tract, upper respiratory
   e. fetal assessment in the post-term pregnancy
5. Treat and/or collaboratively manage above variations from normal based upon local standards and available resources.
6. Perform external version of breech presentation.
CARE DURING LABOUR AND BIRTH

**Competency #4:** Midwives provide high quality, culturally sensitive care during labour, conduct a clean and safe delivery, and handle selected emergency situations to maximise the health of women and their newborn.

**Basic Knowledge of:**
1. Physiology of labour.
3. Psychological and cultural aspects of labour and birth.
4. Indicators that labour is beginning.
5. Normal progression of labour and how to use the partograph or similar tool.
7. Measures to assess maternal well-being in labour.
10. Transition of newborn to extra-uterine life.
11. Physical care of the newborn - breathing, warmth, feeding.
12. Promotion of skin-to-skin contact of the newborn with mother when appropriate.
13. Ways to support and promote uninterrupted [exclusive] breastfeeding.
14. Physiological management of the 3rd stage of labour.
15. Indications for emergency measures: eg. retained placenta, shoulder dystocia, atonic uterine bleeding, neonatal asphyxia.
17. Indicators of complications in labour: bleeding, labour arrest, malpresentation, eclampsia, maternal distress, fetal distress, infection, prolapsed cord.
18. Principles of active management of 3rd stage of labour.

**Basic Skills:**
1. Take a specific history and maternal vital signs in labour.
2. Perform a screening physical examination.
3. Do a complete abdominal assessment for fetal position and descent.
4. Time and assess the effectiveness of uterine contractions.
5. Perform a complete and accurate pelvic examination for dilation, descent, presenting part, position, status of membranes, and adequacy of pelvis for baby.
6. Follow progress of labour using the partograph or similar tool for recording.
7. Provide psychological support for woman and family.
8. Provide adequate hydration, nutrition and comfort measures during labour.
10. Promptly identify abnormal labour patterns with appropriate and timely intervention and/or referral.
11. Perform appropriate hand manoeuvres for a vertex delivery.
12. Manage a cord around the baby's neck at delivery.
13. Cut an episiotomy if needed.
14. Repair an episiotomy if needed.
15. Support physiological management of the 3rd stage of labour.
16. Conduct active management of the 3rd stage of labour including:
   a. Administration of oxytocic
   b. Early cord clamping and cutting
   c. Controlled cord traction
17. Guard the uterus from inversion during 3rd stage of labour.
18. Inspect the placenta and membranes for completeness.
20. Inspect the vagina and cervix for lacerations.
22. Manage postpartum haemorrhage.
23. Provide a safe environment for mother and infant to promote attachment.
24. Initiate breastfeeding as soon as possible after birth and support exclusive breastfeeding.
25. Perform a screening physical examination of the newborn.
26. Record findings including what was done and what needs follow-up.

**Additional Skills:**
1. Perform appropriate hand manoeuvres for face and breech deliveries.
2. Inject local anaesthesia.
3. Apply vacuum extraction or forceps.
4. Manage malpresentation, shoulder dystocia, fetal distress initially.
5. Identify and manage a prolapsed cord.
7. Identify and repair cervical lacerations.
8. Perform internal bimanual compression of the uterus to control bleeding.
9. Insert intravenous line, draw bloods, perform haematocrit and haemoglobin testing.
10. Prescribe and/or administer pharmacological methods of pain relief when needed.
11. Administer oxytocics appropriately for labour induction or augmentation and treatment of postpartum bleeding.
12. Transfer woman for additional/emergency care in a timely manner.

POSTNATAL CARE OF WOMEN

Competency #5: Midwives provide comprehensive, high quality, culturally sensitive postnatal care for women.

Basic Knowledge of:
1. Normal process of involution and healing following delivery [including after an abortion].
2. Process of lactation and common variations including engorgement, lack of milk supply, etc.
3. Maternal nutrition, rest, activity and physiological needs (eg. bladder).
4. Infant nutritional needs.
5. Parent-infant bonding and attachment; eg. how to promote positive relationships.
6. Indicators of sub-involution eg. persistent uterine bleeding, infection.
8. Signs and symptoms of life threatening conditions; eg. persistent vaginal bleeding, urinary retention, incontinence of faeces, postpartum pre-eclampsia.

Additional Knowledge of:
1. Indicators of selected complications in the postnatal period: eg. persistent anaemia, haematoma, embolism, mastitis, depression, thrombophlebitis.
2. Care and counselling needs during and after abortion.
3. Signs and symptoms of abortion complications.

Basic Skills:
1. Take a selective history, including details of pregnancy, labour and birth.
2. Perform a focused physical examination of the mother.
3. Assess for uterine involution and healing of lacerations/repairs.
4. Initiate and support uninterrupted [exclusive] breastfeeding.
5. Educate mother on care of self and infant after delivery including rest and nutrition.
6. Identify haematoma and refer for care as appropriate.
7. Identify maternal infection, treat or refer for treatment as appropriate.
8. Record findings including what was done and what needs follow-up.
Additional Skills:
1. Counsel woman/family on sexuality and family planning post delivery.
2. Counsel and support woman who is post-abortion.
3. Evacuate a haematoma.
4. Provide appropriate antibiotic treatment for infection.
5. Refer for selected complications.

NEWBORN CARE (up to 2 months of age)

Competency #6: Midwives provide high quality, comprehensive care for the essentially healthy infant from birth to two months of age.

Basic Knowledge of:
1. Newborn adaptation to extra-uterine life.
2. Basic needs of newborn: airway, warmth, nutrition, bonding.
3. Elements of assessment of the immediate condition of newborn; eg. APGAR scoring system for breathing, heart rate, reflexes, muscle tone and colour.
4. Basic newborn appearance and behaviours.
5. Normal newborn and infant growth and development.
6. Selected variations in the normal newborn; eg. caput, moulding, mongolian spots, haemangiomas, hypoglycaemia, hypothermia, dehydration, infection.
7. Elements of health promotion and prevention of disease in newborn and infants.
8. Immunisation needs, risks and benefits for the infant up to 2 months of age.

Additional Knowledge of:
1. Selected newborn complications, eg. jaundice, haematoma, adverse moulding of the fetal skull, cerebral irritation, non-accidental injuries, causes of sudden infant death.
2. Normal growth and development of the preterm infant up to 2 months of age.

Basic Skills:
1. Clear airway to maintain respirations.
2. Maintain warmth but avoid overheating.
3. Assess the immediate condition of the newborn; eg. APGAR scoring or other assessment method.
4. Perform a screening physical examination of the newborn for conditions incompatible with life.
5. Position the infant for breastfeeding.
6. Educate parents about danger signs and when to bring the infant for care.

7. Begin emergency measures for respiratory distress (newborn resuscitation), hypothermia, hypoglycaemia, cardiac arrest.

8. Transfer newborn to emergency care facility when available.

9. Record findings, including what was done and what needs follow-up.

Additional Skills:

1. Perform a gestational age assessment
2. Educate parents about normal growth and development, child care.
3. Assist parents to access community resources available to the family.
4. Support parents during grieving process for congenital birth defects, loss of pregnancy, or neonatal death.
5. Support parents during transport/transfer of newborn.

Between 1995 and 1999 a modified Delphi Technique was carried out for seven rounds to establish the Provisional Essential Competencies for Basic Midwifery Practice. As agreed by the International Council (the Confederation’s governing body) in 1999, the competencies were field-tested by 17 ICM member associations throughout 2001. The extensive field testing was undertaken by 1,271 practising midwives, 77 educator groups (total of 312 educators), and 79 senior level midwifery student groups (total of 333 individuals) from 22 countries; and 25 regulators from 20 countries. A total of 214 individual competency statements within six domains were presented for consideration and comment. Almost all of the competencies were supported by a great majority of the persons/groups involved in the testing, with many receiving universal support. In April 2002 the ICM International Council discussed and adopted the Essential Competencies for Basic Midwifery Practice, therewith establishing it as an official ICM document.
APPENDIX B

ESSENTIAL COMPETENCIES FOR THE SKILLED BIRTH ATTENDANT IN THE AFRICAN REGION

GUIDING PRINCIPLES

The consensus on essential competencies for the skilled birth attendant in the African Region is guided by the following principles:

Human rights approach – The right to health and life is a basic human right and women and the newborns have a right to universal access to appropriate quality care.

Public health approach – Essential maternal and newborn health care services should be an integral component of the minimum package services at all levels of the health care delivery system.

A continuum of care – All women should receive appropriate quality care before and during pregnancy, childbirth and postpartum period.

The inseparable dyad of mother and newborn – Interventions for maternal and newborn health should be provided as a package at all levels of the health care service delivery system.

Integration with other relevant programmes – Due importance should be accorded to the need for the prevention and management of indirect causes of maternal and newborn morbidity and mortality such as Malaria and HIV/AIDS.

COMPETENCY IN SOCIAL, EPIDEMIOLOGIC AND CULTURAL CONTEXT OF MATERNAL AND NEWBORN HEALTH

The skilled attendant should have knowledge about social determinants and epidemiological context of maternal and newborn health and ethics that form the basis of appropriate care.

Knowledge is required on:

1. Demography and epidemiology of the local community, including vital statistics of births and deaths, and indicators for health and disease.

2. Direct and indirect causes of maternal, perinatal and neonatal mortality and morbidity, and strategies for reducing them including the advantages of care by skilled birth attendant during pregnancy, childbirth and the postnatal/postpartum period

3. Social determinants for health such as income, water, sanitation, housing, adequacy of food supplies, level of literacy and education, environmental hazards and access to health facilities, local culture, customs and beliefs, including religious beliefs, gender roles and traditional practices.

4. National and local health services including policies, plans and legal framework that regulate provision of and access to essential health package for maternal and child health care at each level in the context of the continuum of care.

5. Community-based primary care, communication and counselling techniques to enhance health promotion and disease prevention.
6. Referral system to higher health facility levels including transport mechanisms.
7. The role and function of other relevant national programmes such as HIV, Malaria and Immunization.
8. Ethical principles that promote equitable access, respect of and inclusion of the patient in decision making.
9. Principles of good management including effective teamwork with other health care professionals.

**Essential skills:**

1. Compile a community health profile.
2. Practice in a responsible manner and is accountable for his/her clinical decisions and actions.
3. Recognise the signs and symptoms of complications and the need for consultation with other medical staff and/or referral and takes appropriate and timely action.
4. Behave in a courteous, respectful, on-judgemental and culturally appropriate manner with all clients, regardless of status, ethnic origin or creed.
5. Promote involvement of women to make informed choices about all aspects of their care and encourages them to take responsibility for their own health.
6. Use appropriate communication and counselling techniques and provide health education relevant for the local community and information about available health services.
7. Work in liaison with individuals, families and communities and other key stakeholders to promote and advocate for Safe Motherhood.
8. Organise his/her work to ensure collaboration with other health workers for effective team work in the provision of health services to women and their families and keep correct records.

**COMPETENCY IN PRE-PREGNANCY CARE AND FAMILY PLANNING**

The skilled attendant should provide high quality, culturally sensitive health education and family planning services in order to promote healthy family life, planned pregnancies and positive parenting.

**Knowledge of:**

1. Female and male anatomy and physiology related to sexuality, fertility and reproduction.
2. Cultural norms and practices surrounding sexuality, sexual practices and childbearing including FGM.
3. Relevant components of a health and family history.
4. Details of physical examination required and investigative laboratory studies that evaluate potential for a healthy pregnancy.

5. Health education content targeted at reproductive health, sexually transmitted diseases (STD's), HIV/AIDS, nutrition and promotion of general health and well-being.


7. Advantages and disadvantages of different methods of child spacing and family planning and details for their effective use.

8. Policies and legislation on family planning including factors involved in decision-making related to unplanned or unwanted pregnancies.


Essential skills:

1. Obtain a relevant and comprehensive history in a sensitive and friendly manner, assuring the woman of confidentiality.

2. Perform a general physical examination of the woman and identify, and appreciate the significance of, any abnormal findings.

3. Request and/or perform and interpret accurately common laboratory tests such as full blood picture, urinanalysis and microscopy.

4. Take a cervical smear correctly for cytology (Papanicolaou).

5. Correlate all data obtained from the history, physical examination and any laboratory tests and interpret the findings in preparation for giving appropriate information and care to the woman.

6. Record all findings from history, physical examination and tests as well as advice, counselling, treatment and recommendations for follow-up.

7. Provide a full range of family planning services including the insertion of an intrauterine contraceptive device and implants, provide post-exposure preventive treatment in accordance with the woman’s choice.

8. Record the contraceptive method provided and give appropriate advice and care for any adverse side effects and advice on follow-up.

9. Use health education and basic counselling skills appropriately when giving information and advice.
COMPETENCY IN CARE AND COUNSELLING DURING PREGNANCY

The skilled attendant should provide high quality antenatal care to maximise the woman’s health during pregnancy, detect early and treat any complications which may arise and refer if specialist attention is required.

Knowledge of:

1. The biology of human reproduction, e.g., the neuro-hormonal regulation of human reproduction and foetal development.
2. Signs and symptoms of pregnancy including physiological changes and advice on the minor disorders which may result from some of them.
3. Examinations and tests for confirmation of pregnancy.
4. Dating pregnancy by menstrual history, size of uterus by palpation and ultrasound if available.
5. Medical complications and their effect on pregnancy, e.g., severe anaemia, diabetes, cardiac or respiratory conditions, essential hypertension, renal disease.
6. Taking a comprehensive and relevant history of the current pregnancy, the woman’s health, her obstetric history and her family health history.
7. Components of a general physical examination to assess the well-being of the mother including weight and blood pressure and the significance of the findings.
8. Components of a general physical examination to assess the well-being of the fetus including fundal height, fetal activity and heart rate and, in the latter weeks, the lie, presentation, position and descent of the fetus and the significance of the findings.
9. Screening tests in pregnancy, including the interpretation of findings, e.g. haemoglobin, urinanalysis for protein, tests for syphilis, e.g. rapid plasma reagin (RPR), HIV testing, screening for TB and laboratory tests for asymptomatic bacteriuria.
10. Nutritional requirements of the pregnant woman and her fetus.
11. Health education and counselling regarding hygiene, nutrition, sexuality including safer sex, risks of HIV and contraception, the dangers associated with smoking, alcohol and un-prescribed drugs.
12. The importance of birth preparedness including place for birth, funds, transportation and social support.
13. Infant feeding, including the advantages of exclusive breast feeding, and replacement feeding in the context of HIV.
14. Education of women and their families about danger signs during pregnancy and the need to seek immediate help from a skilled health worker.
15. Recognition and management of serious conditions in pregnancy which require immediate attention: e.g. pre-eclampsia and eclampsia, vaginal bleeding, preterm labour, preterm rupture of the membranes, severe anaemia, abortion, ectopic or multiple pregnancy, malpresentations at term, e.g. breech and shoulder.
16. Appropriate care for the HIV-positive pregnant woman and interventions to prevent mother-to-child transmission.


**Essential skills:**

1. Take an initial and ongoing history at each antenatal visit.

2. Calculate the estimated date of delivery from the date of the woman’s last menstrual period, if known; otherwise assess gestational age from onset of fetal movements and assessment of fundal height.

3. Perform a full general physical examination and explain the findings to the woman.

4. Assess maternal vital signs including temperature, blood pressure and pulse.

5. Perform and interpret screening tests in pregnancy, e.g., haemoglobin, urinanalysis for protein, tests for syphilis, HIV, screening for TB and asymptomatic bacteriuria.

6. Assess maternal nutrition and give appropriate advice on nutritional requirements in pregnancy and how to achieve them.

7. Perform an abdominal examination, including measurement of the fundal height and comparison with gestational age to assess fetal growth and stage of pregnancy; in the latter weeks of pregnancy, identify the lie, presentation, position and descent of fetus and auscultate the fetal heart.

8. Correlate all data obtained from the history, examination of the woman and results of any laboratory tests and interpret the findings in preparation for giving appropriate information, advice and care to the woman.

9. Educate and counsel women about health issues; e.g. nutrition, hygiene, exercise, dangers of smoking and taking unprescribed drugs, safer sex and risks of HIV.


11. Provide counselling, care, treatment and support for the HIV positive pregnant woman including measures to prevent mother-to-child transmission i.e., infant feeding options.

12. Educate women and their families about the need to seek immediate help from a skilled health worker if any of the following danger signs develop: severe headache, visual disturbances, epigastric pain, vaginal bleeding, abdominal pain associated with episodes of fainting, severe vomiting, preterm rupture of the membranes, fever, offensive or irritating vaginal discharge.

13. Diagnose complications and risk conditions in pregnancy for referral to more specialized care such as:
   - elevated blood pressure and proteinuria, and/or severe headaches, visual changes and epigastric pain associated with elevated blood pressure,
   - high fever,
   - heavy vaginal bleeding in early pregnancy,
- any vaginal bleeding after 22 week,
- abdominal pain associated with episodes of fainting in early pregnancy, with or without vaginal bleeding,
- multi-fetal pregnancy,
- malpresentation at term, e.g. breech, shoulder,
- preterm rupture of the membranes,
- suspected oligo- or polyhydramniosis,
- intrauterine fetal death,
- record findings of history, examinations, tests and give advice and instructions for follow-up.

**COMPETENCY IN CARE DURING LABOUR AND BIRTH**

The skilled attendant should provide high quality, culturally sensitive care during labour, conduct a clean, safe delivery, give immediate care to the newborn and manage emergencies effectively to prevent maternal and neonatal mortality and morbidity.

**Knowledge of:**

1. Onset, physiology and mechanisms of labour.
2. Anatomy of fetal skull, including main diameters and landmarks.
3. Cultural issues concerning labour and birth.
4. Assessment of progress in labour and use of the partograph.
5. Measures to assess fetal well-being in labour.
6. Measures to ensure maternal well-being in labour, hygiene and bladder care, hydration and nutrition, mobility and positions of the woman’s choice, emotional support, massage.
7. Universal precautions to prevent infections.
8. Diagnosis and management of the second stage of labour including delivery of the baby.
9. Indications and technique for making and repairing an episiotomy, including the technique for local anaesthesia of the perineum.
10. Immediate care of the newborn,

- procedures for maintaining warmth,
- clearing of airways and assessing breathing,
- methods of resuscitation,
- cord care,
- early initiation of exclusive breastfeeding, or replacement feeding if the mother is HIV positive and that is her choice.
11. Use, action and indications of uterotonics.
12. Management of the third stage of labour including active management of the third stage of labour.
13. Reasons and method for examination and safe disposal of the placenta and membranes.
14. Technique for examination of the perineum, vulva and lower vagina for tears and grading of perineal tears.
15. Methods of suturing second degree perineal and lower vaginal tears.
16. Measures to assess the woman’s condition after birth
17. Complications in labour requiring emergency care and/or referral, e.g.,
   - intra-partum haemorrhage,
   - multi-fetal pregnancy
   - malpresentations,
   - fetal distress including the risk associated with premature rupture of membranes (PROM) and meconium-stained liquor,
   - cord prolapse,
   - prolonged or obstructed labour,
   - shoulder dystocia,
   - retained placenta,
   - postpartum haemorrhage,
   - severe vaginal and cervical tears,
   - serious infections.
18. Emergency management of PPH.
19. Use of magnesium-sulphate for management of eclampsia.
20. Operative delivery, especially vacuum extraction (VE).
22. PMTCT including HIV screening in women with unknown HIV status.
23. Care, treatment and support in labour and birth for the HIV-positive woman and her newborn.

Essential skills:

1. Take full history of pregnancy and labour including the review of maternal pregnancy records.
2. perform a general physical examination to assess the woman’s condition.
3. Perform an abdominal examination to confirm the period of gestation, identify the lie, presentation, position and descent of the fetus, and auscultate the fetal heart.
4. Assess the frequency, duration and strength of uterine contractions.

5. Make a vaginal examination to determine cervical effacement and dilatation, confirm whether or not the membranes have ruptured, identify the presenting part and position of the fetus, the moulding, the station and level of the head and the adequacy of the pelvis for the passage of the fetus.

6. Accurately record the progress of labour using the partograph.

7. Monitor maternal and fetal condition regularly throughout labour, identifying deviations from normal and taking timely, appropriate action.

8. Provide emotional support for the woman and her family, ensuring that the woman has a companion of her choice to stay with her throughout labour, and keep her fully informed of progress, involving her in all decisions related to her care.

9. Keep the woman in optimum condition during labour, maintaining adequate hydration and nutrition, ensuring that the bladder is emptied regularly, promoting high standards of hygiene to prevent infection and helping with methods of pain relief such as massage and enabling the woman to adopt the positions of her choice.

10. Recognise the signs and symptoms of the second stage of labour and provide constant care, observation and support, allowing non-directive pushing, providing support of the perineum and avoid interference with the normal mechanism of labour.

11. Use universal precautions to prevent infection.

12. Apply a local anaesthesia to the perineum before making an episiotomy, if indicated.

13. Make an episiotomy where indicated and repair it.

14. Provide immediate care for the newborn, including drying, clearing airways, ensuring that breathing is established, skin-to-skin contact with mother and covering to provide warmth.

15. Conduct correctly management of the third stage of labour including the active management of the third stage of labour, using uterotonics (for example oxytocin).

16. After delivery of the placenta and membranes, ensure that the uterus is well contracted by rubbing up a contraction and expelling clots, if necessary, and check that vaginal bleeding is minimal.

17. Examine the vulva, perineum and lower vagina for lacerations, repair second degree tears of the perineum, but refer women with third degree perineal tears and cervical tears to specialized care.

18. Estimate and record all blood loss as accurately as possible.

19. Examine the placenta and membranes for completeness and normality and dispose of them safely as appropriate.

20. Monitor the mother’s condition, ensuring that vital signs and vaginal bleeding are within normal limits and that the uterus remains well contracted.

21. Manage postpartum haemorrhage urgently, if it occurs, by massaging the uterus, administration of uterotonic (for example oxytocin) drug, emptying the bladder, establishing an intravenous infusion and, if still bleeding, aortic or bimanual compression and preparation for referral.
22. Perform urinary catheterisation using an aseptic technique to prevent the introduction of infection.

23. Monitor the condition of the newborn, ensuring that breathing and colour are normal, warmth is maintained and that there is no bleeding from the umbilical cord.

24. Resuscitate the asphyxiated newborn and give appropriate care before referral.

25. Keep mother and baby together to promote attachment and support early initiation (within one hour) of exclusive breastfeeding.

26. Record all details of the birth, care given to the mother and baby and advice about follow-up.

27. Provide HIV testing for women with unknown HIV-status.

28. Give appropriate care and support to the HIV-positive woman and the newborn including PMTCT interventions.

29. Refer women presenting with FGM stage III.

30. Diagnose and safely deliver breech presentation.

31. Manage cord presentation or prolapse correctly.

32. Infiltrate local anaesthetic.

33. Perform vacuum extraction when indicated.

34. Perform MVA to evacuate retained products of conception.

35. Manage shoulder dystocia correctly.

36. Perform manual removal of the placenta and membranes correctly.

37. Insert intravenous line when indicated, draw blood for tests.

38. Prescribe and administer certain drugs, e.g. magnesium sulphate, diazepam, antibiotics and analgesics.

39. Arrange for and undertake timely referral and transfer of women with serious complications to a higher level health facility, taking appropriate drugs and equipment and accompanying them on the journey in order to continue giving emergency care, as required.

POSTPARTUM CARE OF WOMEN

Competency 5: The skilled attendant should provide comprehensive, high quality, culturally sensitive postpartum care for women.

Knowledge of:

1. Physiological changes in the puerperium.

2. The physiology of lactation, the initiation and management of breastfeeding and the recognition and management of common problems which may occur.

3. Recognition, monitoring and management of the psychological and emotional changes, which may occur in the puerperium.
4. Parent-infant attachment and factors which promote and hinder it.

5. The risks of infection and measures taken to prevent infection in mother and newborn after childbirth.

6. Health education and counselling on self care, adequate sleep, rest, good nutrition, personal hygiene including perineal care and care of the newborn infant.

7. Procedure and reasons for postnatal examinations of the mother during the first 12–24 hours, within one week and at six weeks after the birth, or sooner if required.

8. Diagnosis and treatment of anaemia after childbirth.

9. Diagnosis, management and referral of complications e.g.,
   - infection and disorders of the reproductive and/or urinary tract,
   - breast infections,
   - thromboembolic disorders,
   - eclampsia,
   - secondary postpartum haemorrhage, and
   - psychiatric disorders.

10. The grief process following stillbirth or neonatal death, or the birth of an abnormal child, counselling, comforting and supporting the mother and her family.

11. Medical conditions which may complicate the puerperium, e.g. cardiac, lung and renal diseases, hypertensive disorders and diabetes.

12. Special support for adolescents, HIV positive women and living with violence, including rape.

13. Care, support and treatment for the HIV positive mother and her newborn including continuing monitoring and follow up of women on ARVs.

14. Family planning and birth spacing methods appropriate in the postpartum period.

**Essential skills:**

1. Take full history of pregnancy, birth and the earlier postpartum period, identifying factors which will influence the care and advice given.

2. Perform a systematic postpartum examination of the mother identifying any actual or potential problems.

3. Provide appropriate and timely treatment for any complications detected during the postpartum examination i.e., detection and treatment of anemia.

4. Facilitate and support the early initiation and maintenance of exclusive breastfeeding.

5. Use universal precautions for the prevention of infection to prevent the spread of infection after childbirth.

6. Educate and counsel the woman on care for herself and for her baby.
7. Facilitate psychosocial family and community based supportive measures.
8. Emergency treatment of uncomplicated PPH with MVA.
9. Emergency care of a woman during and after an eclamptic fit, including preparation for referral.
11. Counsel, comfort and support the mother and father if the baby is stillborn, born with abnormalities or dies in the neonatal period.
12. Provide care, support and treatment for the HIV positive woman.
13. Counsel the woman on family planning and safer sex and provide appropriate family planning services in accordance with the woman’s choice including information on advantages and disadvantages of the chosen method.
14. Record the contraceptive method provided and give appropriate advice and care for any adverse side effects and advice on follow-up.
15. Keep accurate records on postnatal care and make arrangements for follow-up or referral, as appropriate.

COMPETENCY IN POSTNATAL NEWBORN CARE

The skilled attendant should provide high quality postnatal care for the newborn.

Knowledge of:

1. Physiological changes at birth.
2. Assessment of the newborn using Apgar score.
4. Parent/infant attachment.
5. Procedure for examination of the newborn at birth and subsequently.
6. Infant feeding, both exclusive breastfeeding and replacement feeding.
7. Nutritional requirements of the infant.
8. Traditional practices as they relate to newborn care.
9. Essential elements of daily care of the newborn, e.g., warmth, skin care, care of the umbilical cord, observation for signs of infection, jaundice, frequency and character of stools, feeding and signs of thriving and failure to thrive.
11. Programme for immunisations and vaccinations during the first five years.
12. Common disorders of the newborn, e.g. skin rashes, minor vomiting, minor infections, minor feeding problems and physiological jaundice.
13. Serious disorders of the newborn, e.g., major infections, respiratory difficulties, cardiac conditions, congenital malformations, neonatal convulsions.

14. Low birthweight babies, e.g. preterm and small-for-gestational age.


17. Birth registration.

18. Follow-up of the newborn using correct records.

19. Management of the very low birthweight infant.

20. Monitoring, testing and follow up of newborns born to a HIV-positive mother.


**Essential skills:**

1. Apply aspiration of the airways when head is delivered if meconium stained liquor.

2. Clear airways at birth, to facilitate breathing.

3. Assess the condition of the newborn at birth.

4. Use bag and mask correctly to resuscitate the asphyxiated newborn.

5. Dry the newborn at birth, place in skin-to-skin contact on the mother’s abdomen or chest and cover to keep the baby warm. If skin-to-skin contact is not possible, place the baby on a clean, warm surface and wrap warmly.

6. Clamp and cut the umbilical cord, taking appropriate measures to prevent infection.

7. Label the newborn for correct identification.

8. Examine the newborn systematically from head to feet to detect any congenital malformations, birth injuries or signs of infection.


10. Assist the new mother to initiate exclusive breastfeeding within one hour.

11. Educate the mother and her family about all aspects of infant feeding, especially the importance of exclusive breast feeding for the first six months of life.

12. Teach and supervise the mother in making up feeds correctly and the technique of cup-feeding her baby, if replacement feeding is selected.

13. Teach the mother about the general care and hygiene of the baby, e.g. skin, eyes and cord to prevent infection.

14. Monitor the growth and development of the baby during the postnatal period.

15. Recognise minor and serious disorders in the newborn and treat appropriately, including arranging for referral, if necessary.

16. Give appropriate care including kangaroo mother care to the low birthweight baby, and arrange for referral if potentially serious complications arise, or very low birth weight.
17. Educate the parents about the signs of potentially serious conditions in the newborn and the need to seek immediate help from a skilled health worker.

18. Give immunisations correctly at the optimum time and advise the parents of any possible adverse effects and when to return for further immunisations.


20. Manage bereavement and loss in the event of neonatal death and prepare the dead neonate.

21. Care for baby born to an HIV positive mother e.g., administration of ARV and replacement feeding.

22. Emergency management of life-threatening conditions, e.g. establishing an intravenous infusion, the administration of appropriate drugs, monitoring the condition of the baby, and preparing the mother and newborn for referral.
APPENDIX C

INSTRUCTIONS FOR MAKING CLOTH MODELS

BABY, PLACENTA AND CORD

Materials Needed: Baby

1/3 yard light brown material (medium weight cotton or cotton/polyester)
Light brown sewing thread
Baby pattern
Polyester or polyester/cotton stuffing material (stuffing from a bed pillow works well)
Sewing needle or sewing machine
Sewing scissors
Dark brown or black permanent fine tip marker
Large metal snap (female side)
Straight pins

Materials Needed: Placenta and Cord

¼ yard red material (medium weight cotton or cotton/polyester or polyester)
¼ yard white material (medium weight cotton or cotton/polyester)
Placenta and cord pattern
Red sewing thread
White sewing thread
Sewing needle or sewing machine
Black permanent marker
Polyester or polyester/cotton stuffing material (stuffing from a bed pillow works well)
Large metal snap (male side)
Sewing scissors
Straight pins
Tweezers or artery forceps

Instructions for Baby

Place pattern on a double layer of light brown material (body, leg, and arm). Pin the pattern in place. Cut around pattern with a sharp sewing scissors. Unpin the pattern.

Place the arm and leg pattern again on the double layer of material (to make a second arm and leg). Pin the pattern into place, cut, and unpin. Place the two pieces of the body with the right sides together. Pin into place. Place marks where the arms will be inserted (see marks on the pattern). Stitch ½" (1.2 cm) from edge of material leaving open between the marks where the arms will be inserted and leaving open the bottom of the body where the legs will be inserted. Turn the body right side out and stuff.

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1 Patterns designed and developed by Annie Clark, CNM, American College of Nurse-Midwives. To make any of these models, double the size of the patterns given in this appendix. If a photocopier is available, enlarge the pattern by 200%.
Place the two pieces of one leg with the right sides together. Pin into place. Stitch ½" (1.2 cm) from edge of material leaving the top of the leg open. Remove pins. Turn right side out. Stuff the leg. Repeat with the other leg.

Place the two pieces of one arm with the right sides together. Pin into place. Stitch ½" (1.2 cm) from the edge of material leaving the top of the arm open. Remove pins. Turn right side out. Stuff the arm.

Take one arm and ease into the body (make sure the baby’s thumb is up). Turn the raw edges under. Pin in place. Top stitch the arm into place. Remove pins. Repeat with the other arm.

Take one leg and ease into the body. Turn the raw edges under. Pin in place. Take the other leg and ease into the body. Turn the raw edges under. Pin in place. Put additional stuffing into body, if needed. Pin the crotch closed. Top stitch legs into place and top stitch crotch closed.

Sew the female end of the snap in the middle of the body where the bellybutton would be.

**Instructions for Placenta and Cord**

Place placenta pattern on a double layer of the red material. Pin the pattern in place. Cut around pattern with a sharp sewing scissors. Unpin the pattern. Place the two right sides of the fabric together. Pin together about 1" (2.5 cm) from the edge. Sew the two pieces of material together 1/2" (1.2 cm) from the edge of the material. Leave a 2" (5 cm) space unsewn. Remove the pins. Turn the “placenta” right side out. Stuff with the stuffing material until about 1" (2.5 cm) thick. Turn the edges of the open 2" (5 cm) seam and stitch closed.

Fold over the white material. Place cord pattern with edge indicated on fold of white material. Pin pattern into place. Cut along the edge of the pattern. Unpin the pattern from the material. Fold the material so the two right sides of the fabric face each other. Pin 1 inch (2.5 cm) from the edge. Sew ½" (1 cm) from the edge of the material. Remove the pins. Turn the cord right side out. (Use the tweezers or artery forceps to help pull the material right side out.) Loosely stuff the cord using the tweezers or artery forceps. (Do not overstuff. The cord should be squeezable, not hard like a rope). Turn the raw edges at each end of the cord inward. Stitch one end of the cord closed. Sew the male side of the snap to this end of the cord. Sew the other end of the cord to the middle of the placenta.

On the fetal side of the placenta (the side the cord is sewn onto), draw arteries and veins using the permanent marker.

On the maternal side of the placenta, draw cotyledons.
UTERUS

Materials Needed: Uterus

¼ yard pink material (medium weight cotton or cotton/polyester)
26" (66 cm) white shoelace or ¼ " (0.5 cm) wide pink or white ribbon
Pink sewing thread
Small safety pin (if using ribbon instead of shoelace)
Straight pins
Uterus pattern
Polyester or polyester/cotton stuffing material
( stuffing from a bed pillow works well)
Sewing scissors
Sewing needle or sewing machine

Instructions

Place placenta pattern on a double layer of the pink material. Pin the pattern in place. Cut around pattern with a sharp sewing scissors. Unpin the pattern. Hold one piece of material so the wrong side of the material is facing you. Fold under ¼" (0.5 cm) of the straight edge (cervix) of the piece, and pin to hold. Stitch by hand or machine. Remove pins. Repeat with the other piece. Now place the two pieces of material with the right sides together. Pin to hold. Stitch ½" (1.2 cm) from the edge all the way around the uterus, but leave the straight edge (cervix) unstitched. Unpin. Now fold the straight edge under again 5/8" (1.5 cm), creating a casing, and pin to hold. Stitch ½ " (1.2 cm) from the folded edge leaving ½ “ (1.2 cm) unstitched. Insert the end of the shoelace through the opening and work it through and out the other end of the casing. Hold the end of the shoelace and slide the material along the shoelace until equal amounts of the shoelace are exposed from each side of the casing. (If using ribbon, attach a small safety pin to the end of the ribbon and work it through the casing in the same manner.) Turn the uterus right side out. Stuff the uterus until about 2" (5 cm) thick. Tie shoelaces or ribbon in a bow to secure.
PELVIS

Materials Needed

¾ yard white or beige material (medium weight cotton or cotton polyester)
Pelvis pattern
White or beige sewing thread
Beige embroidery thread-1 skein
Heavy 3" (8 cm) sewing needle with large eye
Polyester or polyester/cotton stuffing material
(stuffing from a bed pillow works well)
Aluminum soft drink can
Sewing needle or sewing machine
Straight pins
Sewing scissors
Pencil

Instructions

Place pelvis pattern on a double layer of white or beige material. Pin the pattern in place. Cut around pattern with a sharp sewing scissors. Unpin the pattern. Take the two pieces you have cut out and put them together so the right sides of the material are facing each other. Pin into place. Stitch ½" (1.2 cm) from edge of material leaving open between the marks at the spine where the stuffing will be inserted. Turn the pelvis right side out. On both sides of the pelvis, mark the pelvis with a pencil where the embroidery stitches will be placed according to the pattern. Cut a piece of aluminum from the pattern for the tailbone with the scissors. Slide the piece of aluminum inside the pelvis where the tailbone will be. Stuff the entire pelvis firmly with stuffing. Bring the two edges of the pubic bone together and stitch both front and back of pubic bone.

Finishing-Thread the heavy needle with the embroidery thread. Stitch along the iliac crest as indicated on the pattern. Use stitches ½" (1.2 cm) long and stitch from the front of the iliac crest to the back and then stitch forward again so your stitches fill in and make a solid line of stitching. Repeat with the other iliac crest.

Use the heavy needle with embroidery thread. Knot the end of the thread. Insert the needle through one of the pencil marks on the inside of the pelvis and come through the opposite mark on the outside of the pelvis. Pull tight. Insert the needle through the same mark on the outside of the pelvis to the inside of the pelvis. Repeat one more time inserting the needle through the same mark on the inside of the pelvis to the outside of the pelvis. Pull tight and secure with a knot. Cut the thread free being careful not to cut off the knot. Repeat this process for all of the pencil marks. When stitching the tailbone, insert needle through both the material and the aluminum piece inside.

Fold over the raw edges of the spine where the stuffing was inserted, pin together, and stitch closed. Remove pins.
INSTRUCTIONS FOR MAKING A BREAST MODEL

Materials Needed for One Model

Sewing needle
Sewing thread (color does not matter)
(2) Lower legs or upper legs of brown panty hose
2 large handfuls of polyester or polyester/cotton stuffing from a pillow
2 small plain rubber bands (not colored)
Black marker with permanent ink
Piece of white cotton cloth 152 cm long and 10 cm wide (a piece of sheet works well)

Instructions
1. Cut the panty and the toes off of a pair of pantyhose. Cut the two pieces from the legs in half so you have 4 tubes. (You will need 2 tubes).
2. Take a handful of stuffing and push it into the center of one of the pantyhose tubes. Repeat with a second tube. These will become the breasts.
3. Fold the excess of the pantyhose material so that it overlaps behind the “breast.” Take a few stitches with a needle and thread to hold the flaps down. Repeat with the second “breast.”
4. Pinch the front of the “breast” to form a nipple and bind with a small rubber band. Repeat with the second “breast.”
5. Take the piece of sheet and tie it around your chest. Make a mark on the cloth where you feel your own nipples beneath the cloth.
6. Remove the piece of sheet and sew the “breasts” on over each mark you made.
7. Color the nipple and make an areola with the black marker on each “breast.”
8. Tie the model on around your chest for teaching breastfeeding, breast exam, pregnancy, childbirth, or postpartum role plays.
INSTRUCTIONS FOR MAKING INFANT “BEANIES”

Materials Needed for One Beanie

A size D or 3 crochet hook
Baby or fingering weight yarn

Crocheting Pattern

Ribbing: Chain (ch) 8 stitches (sts); turn, single crochet (sc) into 2nd ch from hook and each st across. Ch 1, turn. Row 2: Sc into back loop only of each sc across. Ch 1, turn. Repeat (rep) row 2 until there are 24 redges. Fasten off and sew seam in ribbing to form a circle.

Attach yarn at seam and ch 3. Double crochet (dc) in end of each row of ribbing; slip stitch (sl st) to join, ch 3. Work 4 rounds (rnds) of dc joining rnds with sl st.

1st decrease (dec) Rnd: Ch 3 * dc 3, dec on next 2 sts; rep from * around, ending dc on any extra sts. Work 1 rnd even.

2nd Dec Rnd: Ch 3 * dc 2, dec on next 2 sts; rep from * around, ending dc any extra sts. Work 1 rnd even.

3rd Dec Rnd: Ch 3 * dc 1, dec on next 2 sts, rep from 1 ending dc any extra sts. Work 1 rnd even.

4th Dec Rnd: Ch 3 * dec on next 2 sts; rep from * around, ending dc any extra sts. Draw together remaining sts and fasten off securely.

Knitting Pattern

Use #4 needles and baby weight yarn.
Cast on 72 stitches (sts).
Knit (k) 2, Purl (p) 2 or 3 inches.
K the next 2 rows to make a ridge on the right side.
P one row.
Work in Stockinette Stitch (st st; k one row, p one row) for 14 rows.
K the next 2 rows to make another ridge.
P one row. Next row: k2 together (tog) across row.
Repeat the last two rows until you have 9 sts remaining on the needle.
Leave a strand of yarn long enough to weave the back seam together, draw the strand through the 9 sts and fasten.
Weave the back seam together.
To make any of these models, double the size of the pattern. If a photocopier is available, enlarge the pattern by 200%.